Virginia Department of Environmental Quality
2004 Water Quality Assessment 305(b) and Impaired Waters Listing 303(d) Integrated Report
Public Comment Issues and Responses

August 2004

A copy of all public comments received on the 2004 305(b)/303(d) Integrated Report has been submitted to the US Environmental Protection Agency for their records. A complete list of comment submitters is included in this document.

Individual responses to comments were sent to EPA and to a few other organizations. All such responses are included in this document. In addition, there were numerous questions raised about the listing of specific waters, particularly by EPA. Additional information about these waters is included in this document.

Summary Listing of Commenters on the Draft 2004 303(d) Report

No.	Name	Affiliation	
1	Bob Koroncai	U.S. EPA	EPA
2	Roy Hoagland	Chesapeake Bay Foundation	
3	William E. Damon, Jr.	US Forest Service	USFS
4	Eileen Leininger	City of Newport News	
5	Christopher Seibert	Va Department of Transportation	VDOT
6	Norm E. LeBlanc	Hampton Roads Sanitation District	
7	Frank W. Harksen, Jr.	Hanover County Utilities	
8	Carl E. Bouchard	Fairfax County Public Works	
9	Patricia A. Jackson	James River Association	
10	H. Clayton Bernick, III	City of Virginia Beach Env. Mang.	
11	Darrell Schwalm	Loudoun Watershed Watch	
12	Jeanie Grandstaff	Hopewell Wastewater Treatment	
13	Kay Slaughter	Southern Environmental Law Center	
14	Evelyn Mahieu	Citizen	
15	Terry B. Councell	Citizen from Culpepper Co	
16	John Carlock	Hampton Roads Planning District Commission	
17	Vernon R. Land	City of Norfolk Utilities	
18	Jacqueline S. Stewart	Richmond Regional Planning District Commission	

COPY – Received April 29, 2004

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Mr. Larry Lawson, Director
Division of Water Program Coordination
Virginia Department of Environmental Quality
629 Main Street
Richmond, VA 23219

Dear Mr. Lawson:

The United States Environmental Protection Agency (EPA) Region III appreciates the opportunity to review the Commonwealth's 2004 Water Quality Assessment Integrated Report. EPA believes that the 2004 Integrated Report provides the reviewer with an accurate
Portrayal of the water quality of Virginia's surface waters. EPA believes some additional information added to the integrated report will provide the reviewer with an understanding of how Virginia is addressing the problems illustrated by the 2004 Integrated Report.

A section should be provided to document all of the Category 4A waters for which total maximum daily loads (TMDLs) have been developed. This list should identify the water and segment, pollutant, impairment, and the date of the TMDL. Table 3.4 should document whether a water is on Category 4B or 5E of the List and should also justify why that is appropriate. The Commonwealth should describe why such a large number of waters are on Category 3 of the Integrated Report and what is being done to assess these streams. Additional comments addressing Category 5A of the Integrated Report are attached. If you have any questions or comments concerning this letter, please don't hesitate to contact M. Larry Merrill at (215) 814-5452.

Sincerely,

Robert A. Koroncai, Chief
DC/MD/VA Branch

Enclosure

June 25, 2004

Mr. Robert A. Koroncai,
Chief
DC/MD/VA Branch
USEPA, Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Mr. Koroncai:

Thank you for your letter, dated April 22, 2004, containing comments on Virginia's Draft 2004 305(b)/303(d) Water Quality Assessment Integrated Report. In response to a request from your staff to expedite the submittal of additional information about our 303(d) List, we have attached several lists and tables of information which includes responses to comments on specific waters we received from the United States Environmental Protection Agency (EPA) Region III.

Your letter also raised a few general comments concerning the draft 2004 Integrated Report we would like to respond to. The attached revised 2004 303(d) Impaired Waters List will be included in the final 2004 Integrated Report that will be sent to you within a few weeks once revisions to narratives are completed and new tables and figures are added in response to public comments. The 303(d) Impaired Waters List now includes, as EPA requested, Category 4 and its subcategories.

The table on Water Quality Based Limited Sources (3.4), already distinguished between Categories 4B and 5E. The accompanying narrative states that Category 5E waters are those with compliance dates extending beyond the next assessment report release, i.e. April 2006. To provide more clarity to Table 3.4, we have added a projected compliance date for each Category 4B and 5E listing in Table 3.4, and have noted, where applicable, the reason for any delays in completion of required corrective actions.

VADEQ acknowledges that the number of Category 3 waters (i.e. insufficient information) is high for rivers and streams in the 2004 assessment. Although assessment determinations in the 2004 report were made on over 95% of estuaries and approximately 85% of significant lakes in Virginia, only 22% of rivers were assessed in the current report. Despite limited financial and human resources, Virginia's water quality monitoring program will address this issue several assessment cycles at the small watershed scale. Please note, as shown in new Figure 1.1-1 in the Executive Summary of the Integrated Report, that VADEQ's watershed monitoring rotation has, over the last few assessments, resulted in the listing of at least one impaired water in nearly 90% of the (3-digit scale) watersheds throughout the commonwealth. The number of TMDLs being developed on a small watershed basis is increasing. Waters under a TMDL include designated impairments and those unmonitored or partially monitored watersheds making significant pollutant contributions to those impairments. Therefore, the TMDL will identify and quantify needed pollutant reductions for all waters covered by the TMDL, including those with no or insufficient monitoring data to make an assessment.

With the final report, we shall send EPA a copy of all public comments received during the comment period, which ran from March 22 through April 23, 2004, and the comment response document. We shall also mail a copy of the comment response document to everyone who submitted comments. Everyone on our mailing list, of over 350, will receive a copy of the final report on compact disc, including all appendices and map images. The public will also be able to download these documents from our website at http://www.deq.virginia.gov/wqa. Also, the mapping application will continue to be accessible at http://gisweb.deq.virginia.gov. Hard copies of the report can be obtained by calling our office in Richmond, at 804-698-4575.

If there are any questions about the report, please contact Darryl Glover at (804) 698-4321, or e-mail him at dmglover@deq.virginia.gov.

Very truly yours,

Alan E. Pollock
Director,
Office of Water Programs

Enclosures:

Responses to EPA regarding the listing of specific waters follow:

WB Id	Stream Name	2002	2004	DEQ Comments
	Potomac Creek		Appendix A listing does not mention pH.	Found on Page A-59-Appendix A Section 2.a
VAN-E07R-01	Muddy Run		Mention in Appendix that 2 segments from 2002 combined	The fact sheet mentions that the segment was expanded from 2002. I made changes to clarify. - BT
VAN-F07L-01	Lake Anna	3 Segments 2450, 96, 614 acres	Were segments combined?	Yes. While the fact sheet describes the combined segments, I added a statement clarifying this. BT
VAN-F21R-01	Herring Creek	Not listed for Fc	Is this a new pollutant?	NO listed in 2002 for FC
VAC-H21R-01 (Should be VAC-H21R-04)?	Slate River	Mileage 12.88	Mileage 13.28	The start and end miles were miscalculated in 2002 and I just adjusted them based on this comment. A note was added to the location memo in 303d.
VAC-H21R-02	Frisby Branch	Mileage 1.34	Mileage 3.74	This segment (1.34) should have been listed for pH during the 2002 cycle, instead the North River in the same watershed was incorrectly listed for pH. In 2004 the segment (3.93) has been correctly listed entirely for fecals and the upstream (1.34) for pH. The appropriate changes have been made in the database and a note was added to the location memo in 303d.
VAC-J06R-01	Angola Creek	Two Segments	Were segments combined?	YES
VAC-K02R-01	North Meherrin River	Was VAP-K02R	Did several VAP segments become VAC	Watersheds K01, K02, K03, K14, K15 & K16 were changed from VAP to VAC.
VAC-L19R-01	Stauton River	3 Segments 47.72,29.17, 7.01	Were segments combined?	Roanoke segments were combined to show the entire length of the VDH Advisory for PCBs along with the embedded bacteria impairment.
VAC-L28R-01	Big Otter River	3 Segments 2.38, 2.2,9.4	Mention segments combined in appendix.	A note was added to the 303d Impairment Memo to explain.

VAC-L28R-01	Big Otter River		TMDL Completed	Changed in 303d, was correct in the ADB database.
VAC-L34R-01	Falling River		Mention that this consolidated previous segments to 1 listing.	A note was added to the 303d Impairment Memo to explain.
VAC-L37R-01	Cub Creek	Mileage 13.71	Mileage 14.21, Why was US delineation extended?	Miscalculation of start rivermile
VAC-L60R-01	Dan River	Several segments	Mention that this consolidated previous segments to 1 listing.	The Dan River from the VA/NC state line to the backwaters of Kerr Reservoir was combined into one segment (VAC-L60R-01) and the portion of the river that is part of the reservoir was split out into a separate segment (VAC-L73L-03). A note was added to the Impairment Memo in 303d.
VAC-L66R-01	Cherrystone Creek		Mention that this consolidated previous segments to 1 listing.	A note was added to the 303d Impairment Memo to explain.
VAC-L71R-04	Banister River		Is it still impaired for FC from mile 23 to 16?	YES VAC L67R-01
VAC-L73L-03	Dan River	Mileage 8.32	Mileage 1,624 Acres	The Dan River from the VA/NC state line to the backwaters of Kerr Reservoir was combined into one segment (VAC-L60R-01) and the portion of the river that is part of the reservoir was split out into a separate segment (VAC-L73L-03). A note was added to the Impairment Memo in 303d.
VAC-L79L-01	Roanoke River Gaston	Mileage 5.09	Mileage 4.68, why was DS demarcation changed?	The Gaston segment was changed to reflect the results of the Trophic State Index calculations. The upper portion of Lake Gaston was impaired above and below the thermocline, whereas downstream the TSIs were calculated and determined to be below 60.
VAC-L79L-01	Roanoke River Gaston	Was listed as L79R		I also changed the mileage to acres on the fact sheet 4.68 miles ~ 1379.57 acres, based on this comment.
VAC-L80L-01	Roanoke River Gaston	20,300 Acres	5,528 Acres	NC portion included in 2002

VAP-A31E-06	Mattox Creek	Mileage 3.1 (Mile 4.1-1.0)	Mileage 0.04	Mileage adjusted to meet condemnation
VAP-C06R-01	NW Br Severn River	Not listed for Chloride	Is this a new pollutant?	YES
VAP-E22R-01	Occupia Creek	Listed Part 1A	Why was this moved to 5C	BPJ indicates natural conditions
VAP-E23E-03	Hoskins Creek		Mark chloride as 2004 impairment on list.	YES - natural conditions
VAP-E23E-04	Piscataway Creek		Mark chloride as 2004 impairment on list.	YES - natural conditions
VAP-E23R-01	Cat Point Creek		Appendix should state TMDL for upstream not do until 2016	**YES - fact sheet corrected**
VAP-E23R-03	Piscataway Creek	Listed for Zinc	Should this be added	NO - (zinc in sediment=observed effects)
VAP-E25E-02	Robinson Creek		Why was segment reduced?	Mileage adjusted to meet 2004 condemnation
VAP-F13R-01	Matadequin Creek	Mileage 5.01	Mileage 11.39	Upstream impairment added to original
VAP-F23R-01	Mattaponi River	Listed for Arsenic and Benzo(b)	Should these pollutants be added?	NO (observed effects)
VAP-G01E-01	James River	Mileage 10.84	Mileage 28.15	**Fact sheet corrected**
VAP-G03E-01	Bailey Bay	Listed for DDE and DDT	Should these pollutants be added?	Not Listed for DDT & DDE (in sediment = observed effects)
VAP-G08E-01	Chickahominy River	Did not have PCB Listing	Are PCBs a 2004 pollutant?	YES
VAP-G09R-02	Diascund Creek	Metals were not included	Are Metals a new listing	YES
VAP-H33R-03	Stegers Creek	Listed for Antimony	Should Antimony be added?	NO (antimony in sediment)
VAP-H39R-02	Tuckahoe Creek	8.7 Miles	No Mileage Provided	ALUS=44.28mi & Swim=22.36mi
VAP-H39R-02	Tuckahoe Creek	Not listed for pH and Sulfate	Are these new listings	YES, new pollutants
VAP-J12R-01	Winticomack Creek	Part 1A Water	Why was this moved to 5C	**Draft TMDL indicates natural conditions**
VAP-J12R-02	Winterpock Creek	Part 1A Water	Why was this moved to 5C	**Draft TMDL indicates natural conditions**
VAP-K06R-01	Great Creek	Not Listed for DO or FC	Are these new listings	YES
VAP-K29R-01	Assamoosick and Seacorrie	Listed as 4 Segments	Were segments combined?	YES
VAP-K32R-03	Otterdam Swamp	Listed for Phos. and Ammonia	Is Otterdam Attaining WQS for these?	YES (observed effects)
VAP-K32R-08	Cypress Swamp	Mileage 5.35	Mileage 17.1	New impairment upstream
VAS-N26-R-01	Kimberling Creek	Mileage 4.74	Mileage 9.18	Additional station impaired downstream
VAS-N36R-03	Bluestone River	Not listed for FC	Is this a new pollutant?	YES
VAS-O01R-01	SF Holston River	Mileage 8.67	Mileage 8.34	Corrected downstream rivermile
VAS-O05R-01	Cedar Creek		TMDL Completed	Should be Category 4A
VAS-O05R-02	Hutton Creek		TMDL Completed	Should be Category 4A
VAS-O05R-03	Hall Creek		TMDL Completed	Should be Category 4A
VAS-O05R-04	Byers Creek		TMDL Completed	Should be Category 4A

VAS-O06R-01	Wolf Creek	Mileage 7.8	Mileage 6.69	Corrected upstream rivermile
VAS-O07R-01	Beaver Creek	Not Listed for PCBs	Is this a new listing?	YES
VAS-O09R-01	Lick Creek	Not listed for FC	Is this a new listing?	YES
VAS-O10R-02	Laurel Creek	Mileage 9.4	Mileage 6.16	Corrected upstream rivermile
VAS-O12R-01	NF Holston River	Mileage 35.42	Mileage 34.29	Corrected downstream rivermile
VAS-P03R-01	Middle Creek	Mileage 10	Mileage 11	incorrect calculation 2002
VAS-P03R-02	Clinch River	Mileage 3.1	Mileage 3.37	Corrected downstream rivermile
VAS-P11R-05	Crab Orchard Creek		TMDL Completed	Should be Category 4A
VAS-P11R-06	Little Toms Creek		TMDL Completed	Should be Category 4A
VAS-P11R-07	Sepulcher Creek		TMDL Completed	Should be Category 4A
VAS-P11R-08	Toms Creek		TMDL Completed	Should be Category 4A
VAS-P18R-01	South Powell River	Mileage 3.71	Mileage 5.61	Additional Station impaired upstream
VAS-Q13R-01	SF Pound Ruver	Mileage 4.31	Mileage 6.53	Corrected upstream rivermile
VAT-C10R-02	Sandy Bottom Branch	Not listed for FC	Is this a new pollutant?	YES
VAT-C11E-06	Onancock Creek SBr	Mileage 0.01	Mileage 0.04	Better GIS refinement
VAT-C14E-01	Hungar Creek	Mileage 0.01	Mileage 0.1	Corrected for calculation error
VAT-D02E-01	Assawoman Creek	Mileage 0.05	Mileage 0.09	Better GIS refinement
VAT-D02R-01	Petit Branch	Mileage 1.79	Mileage 1.9	Better GIS refinement
VAT-D05R-01	Taylor Creek	Mileage 1.75	Mileage 1.25	Corrected segment end error
VAT-D06R-01	Mill Creek	Mileage 4.08	Mileage 1.55	Corrected segment end error
VAT-D06R-01	Mill Creek	Not listed for FC	Is this a new pollutant?	YES
VAT-D07E-01	Lake Wesley	Mileage 0.1	Mileage 0.01	Corrected for calculation error
VAT-D07E-02	Lake Rudee	Mileage 0.2	Mileage 0.13	Better GIS refinement
VAT-D07E-02	Lake Rudee	Not Listed for FC	Is this a new pollutant?	YES
VAT-D07E-03	Owl Creek Low	Mileage 0.06	Mileage 0.01	Better GIS refinement
VAT-D07E-04	Owl Creek Upper	Mileage 0.04	Mileage 0.004	Corrected for calculation error
VAT-F26E-03	Queen Creek	Mileage 0.21	Mileage 0.13	Corrected segment start error
VAT-F27E-05	King Creek	Mileage 0.08	Mileage 0.03	Better GIS refinement
VAT-F27E-06	King Creek	Mileage 0.16	Mileage 0.21	Better GIS refinement
VAT-G11E-05	Pagan River		Note PCBs as 2004 listing	YES
VAT-G11E-09	James River	Was listed for PAHs	Should PAHs be included?	NO - PAH incorrectly included, data shows only PCB impairment
VAT-G15E-01-02	S Br Elizabeth River	Three segments 0.5 miles	Were segments combined?	YES - combined into VAT-G15E-01-03
VAT-G15E-01-03	Elizabeth River	Listed DO	Should this be added	DO to be delisted (in 2002 DO impairment incorrectly associated with entire Elizabeth R. when data indicates only DO impairment in two sections of Southern Branch)
VAT-G15E-02-02	E Br Elizabeth River		List PCBs as 2004 impairment	YES
VAT-G15E-02-04	Broad Creek		List PCBs as 2004 impairment	YES
VAT-G15E-04-02	W Br Elizabeth River	Mileage 1.1	Mileage 3.81	Impairment expanded due to additional station
VAT-K27R-02	Three Creek	Not Listed for DO	Is this a new listing	YES (missed in 2002)
VAT-K34R-01	Mill Swamp	Not Listed for DO	Is this a new listing?	YES (missed in 2002)
VAT-K41R-02	Milldam Creek	Was Listed for Nutrients	Should this be added?	NO (no standard)

VAT-K41R-05	West Neck Creek	Listed as Upper	Listed as Middle	2002 West Neck Creek (Upper) moved to VAT-C08E-07 in 2004 per USGS flow study & data indicating estuarine conditions in segment.
VAT-K42E-01	Nawney Creek	Was this segment split		Segment expanded and split into VAT-K42E-01 & VAT-K42E-02
VAV-B06R-02	Hogue Creek	Not listed for FC in appendix or list	Was FC added in 2004?	YES
VAV-B16R-01	North River	Listed for pH	Was Benthic added in 2004?	NO - 1998 Plaintiffs list- SI
VAV-B18-R01	Wolf Run	Mileage 1.13	Mileage 3.11, is this because new FWS station added?	YES
VAV-B18-R04	Beaver Creek	Listed for Benthic and FC	Was temperature added in 2004?	YES
VAV-B20R-01	Dry River	Mileage 10.14	Mileage 13	Additional station added
VAV-B21R-01	Dry River	Listed for FC	Was Benthic added in 2004?	NO - 1998 Plaintiffs list- SI
VAV-B32-R01	South River	Mileage 6.8	Mileage 9.91	Moved segment upstream to bridge crossing
VAV-B32-R-2	South River	Mileage 23.89	Mileage 29.18	Moved segment upstream to bridge crossing
VAV-B35R-02	Quail Run	Listed for Benthic	Was FC added in 2004?	YES
VAV-B47R-01	Spout Run & Page Br	Mileage 3.65	Mileage 12.47	Page Brook Run was added in 2004 This WB ID should be VAV-B57R-01
VAV-B49R-04	Laurel Run	Mileage 0.75	Mileage 5.15, Is this because of FWS USFS station 4047?	No, this impairment is based on USFS 4027 which was incorrectly identified as 4047 in the 2002 assessment. All the data for the 2004 fact sheet is correct
VAW-L02R-01	Roanoke River	Listed for Metals	Should this be added?	NO (metals TSV = observed effects)
VAW-L03R-02	Roanoke River		Mention that this consolidated previous segments to 1 listing.	
VAW-L12L-02N	*-Smith Mountain Lake		Why 4C	TSI < 60 = natural
VAW-L12L-03	Smith Mountain Lake	No pH impairment	Is this a new pollutant?	**pH listed in 2002 described in 2002 Part 1C Fact Sheet (2871 Acres).**
VAW-L12L-03	Smith Mountain Lake		Why 4C	TSI < 60 = natural
VAW-L12L-05N	Smith Mountain Lake	Mileage 4,659	Mileage 6195	Acerage increase due to inclusion of Bull Run [1186 acres] + Cool Branch [350 acres] (each reported separately in 2002 Part 1C) + Blackwater River [4659 acres] for total of 6195 acres.
VAW-L12L-05N	Smith Mountain Lake		Why 4C	TSI < 60 = natural
VAW-L18R-01	Pigg Creek	Listed in two segments L16&L18	Were segments combined?	YES

VAW-L26R-01	Little Otter River		TMDL Completed	Bacteria TMDL completed
VAW-L43R-01	South Mayo River		TMDL Completed	Approval outside Cycle data window but Bacteria Approval is now in ADB and Fact Sheet. Temperature (4.46 miles) causes part of the segment to be Category 5D.

Segment	Stream Name	Comment	DEQ Response
VAN-A08R	SF Sycolin Creek	Is this water still impaired?	Yes. It is included in the 303(d) list under Category 4A. The exceedance rate was 5/11 (45.5%) for fecal coliform. The Goose Creek watershed bacteria TMDL covers this segment. It was approved on 5/31/2003.
VAN-E01R	Thumb Run, W Br	Why was this moved to 4A without a TMDL?	The mainstem of Thumb Run has a completed bacteria TMDL. The West Branch, and East Branch, of Thumb Run are both covered by this TMDL that was approved on 5/31/02.
VAV-B56L	Lake Frederick	Why was this moved to 4C?	The lake was stratified with a DO impairment in the hypolimnion. The TSI calculated for Lake Frederick was < 60, so based on Section 6.6 of the Assessment Guidance, the impairment was placed in Category 4C, impaired by natural causes not needing a TMDL.
VAW-L09R	Mollie Branch	Why was this moved to 4A without a TMDL?	The TMDL Study for Maggodee Creek is complete. The study incorporates tributary streams that lie within the boundaries of watershed VAW-L09R. Mollie Branch is tributary to Maggodee Creek. The waters are Category 4A for bacteria with the U.S. Environmental Protection Agency (EPA) approval of the Maggodee Creek Study on 04/27/2001. The entirety of the approved study with allocations can be viewed at http://www.deq.state.va.us.
VAC-H05R	James River	Is this water still impaired?	Yes. Listed in Table 3.3-1 and also as a fact sheet in Appendix A as VAC-H05R-01 Fecal Coliform Impairment.
VAC-H36R	Randolph Creek	Why was this moved to 4A without a TMDL?	Included in Willis River watershed TMDL - Approved 5/31/02
VAC-J03R	Bush River	On Table 3.1 as 5A but not on List of Category 5 Waters.	Crosses watershed boundaries, combined into one fact sheet in Appendix A (VAC-J04R-01).
VAC-L36R	Roanoke River	On Table 3.1 as 5A but not on List of Category 5 Waters.	It was combined into one fact sheet in Appendix A (VAC-L19R-01).
VAC-L38R	Roanoke River	On Table 3.1 as 5A but not on List of Category 5 Waters.	It was combined into one fact sheet in Appendix A (VAC-L19R-01).
VAC-L40R	Stauton Creek	Is this water still impaired?	This segment looks to be confused with the Roanoke (Staunton) River segment in VAC-L40. It was combined into one fact sheet in Appendix A (VAC-L19R-01).
VAC-L60R	Dan River, Lower 1.82	On Table 3.1 as 5A but not on List of Category 5 Waters.	It was combined into one fact sheet in Appendix A (VAC-L60R-01).
VAC-L62R	Dan River 2.73 mile	On Table 3.1 as 5A but not on List of Category 5 Waters.	It was combined into one fact sheet in Appendix A (VAC-L60R-01).
VAC-L62R	Dan River 12.13 mile	On Table 3.1 as 5A but not on List of Category 5 Waters.	It was combined into one fact sheet in Appendix A (VAC-L60R-01).
VAC-L64R	Dan River 6.49 mile	On Table 3.1 as 5A but not on List of Category 5 Waters.	It was combined into one fact sheet in Appendix A (VAC-L60R-01).
VAC-L64R	Dan River 10.38 mile	On Table 3.1 as 5A but not on List of Category 5 Waters.	It was combined into one fact sheet in Appendix A (VAC-L60R-01).
VAC-L79R	Roanoke River	Is this water still impaired?	The impairment was changed to reflect the true condition of the segment - VAC-L79L-01 (backwaters of Lake Gaston). The riverine portion of the original segment was changed to VAC-L78R-01. Both are included as separate fact sheets in Appendix A.
VAP-H39R	Little Tukahoe Cr	On Table 3.1 as 5A but not on List of Category 5 Waters.	Part of VAP-H39R-02
VAP-H39R	Deep Run	On Table 3.1 as 5A but not on List of Category 5 Waters.	Part of VAP-H39R-02
VAP-J11R	Deep Creek, UT	Is this water still impaired? Was it moved to 2C?	Moved to 2A - two "not impaired"s in 2002
VAP-J16L	Swift Creek Reser	Is this water still impaired?	No, TSIs are acceptable
VAP-E24E	Rappahonock River	On Table 3.1 as 5A but not on List of Category 5 Waters.	PRO portion of Rappahannock in VAP-E22E-08
VAP-K29R	Black Swamp	Is this water still impaired?	Yes - DO, pH, FC (VAP-K29R-01)

VAT-K41R	West Neck Creek	Is this water still impaired?	YES (2004 303d TMDL IDs= VAT-K41R-05, VAT-K41R-05, & VAT-C08E-07)
VAT-F26E	Upper York MS-IBI	Is this water still impaired?	YES (Combined into 2004 303d TMDL ID = VAT-F26E-01
VAT-F27E	Lower York MS-IBI	Is this water still impaired?	YES (Combined into 2004 303d TMDL ID = VAT-F26E-01
VAT-F27E	York Mouth MS-IBI	Is this water still impaired?	YES (Combined into 2004 303d TMDL ID = VAT-F26E-01
VAT-G15E	S Br Elizabeth	Is this water still impaired?	YES (2004 303d TMDL IDs= VAT-G15E-01-01,VAT-G15E-01-02,VAT-G15E-01-03,VAT-G15E-01-04, VAT-G15E-01-06)
VAT-G15E	E Br Elizabeth	Is this water still impaired?	YES (2004 303d TMDL Ids = VAT-G15E-01-03, VAT-G15E-02-02)
VAT-G15E	E Br Elizabeth	Is this water still impaired?	YES (2004 303d TMDL Ids = VAT-G15E-01-03, VAT-G15E-02-02)

COPY – RECEIVED May 2004

CHESAPEAKE BAY FOUNDATION

May 12, 2004

Alan Pollock
Director, Water Quality Programs
Virginia Department of Environmental Quality
529 E. Main Street
Richmond, Virginia 23219

Ref: 2004 Virginia Water Quality assessment 305(b)/303(d) Integrated Report

Dear Mr. Pollock:

The Chespeake Bay Foundation (CBF) welcomes this opportunity to comment on the above-referenced report, and we appreciate your staff meeting with Elizabeth Andrews to discuss the report in detail.

First of all, CBF commends the Department of Environmental Quality (DEQ) for publishing its first Integrated Report, and for producing a more expanded report than in prior years. The inclusion of special monitoring programs for metals, toxics, fish tissue sampling, etc. is a very positive step, as is the introduction of the Probabilistic Monitoring (ProbMon) study in an attempt to provide baseline data for waters throughout the Commonwealth.

CBF does have a number of concerns about this report, however. The foremost issue is that the report Fails to fulfill the requirements of the Virginia Water Quality Monitoring, Information and Restoration Act of 1997 [hereinafter "the Act"]. In § 62.1-44.19:5(D)(2) of the Act, DEQ is required to produce 305(b) and 303(d) reports that "[i]ndicate water quality trends for specific and easily identifiable geographically defined water segments and provide summaries of the trends as well as available data and evaluations so that citizens of the Commonwealth can easily interpret and understand the conditions of the geographically defined water segments." The 2004 report is not easily understood nor interpreted. The Executive Summary should be a short document written in layman's terms, so a citizen of the Commonwealth could easily determine the condition of a particular water body. Fish advisories should be included in the Executive Summary, so citizens can quickly find where they can and cannot consume their catch, as well as short summaries of the water quality for each major tributary with references to specific pages in the report for additional information and maps.

In addition, water segments should be consistently defined from one report to the next. Although prior reports used the term "water segments", the 2004 report shifts to discussing "assessment areas" or "impairment areas", even though the Act specifically calls for the use of geographically defined water segments." See § 62.1-44.19:5(D)(2).

Another concern is that the Act requires DEQ to identify waters as impaired if monitoring or other evidence leads to the imposition of fishing restrictions or advisories, or shellfish consumption restrictions due to contamination. §62.1-44.19:5(C)(1)(ii). Yet DEQ has placed waters with seasonal shellfish condemnations, or with a general fish advisory but no consumption limit, in Virginia Category 2B "waters of concern", rather than Category 5 impaired waters. Your staff, at their meeting With Ms. Andrews, defended this decision by noting that EPA has issued guidance stating that Administrative closures are not to be called impaired without data to support it; yet the more restrictive Virginia statute makes it clear that waters with fishing restrictions or advisories or shellfish consumption restrictions – seasonal or not – should be defined as impaired. The list of waters with administrative condemnations provided by the Virginia Health Department, current as of April 20, 2004. encompasses more than 142,890 acres – a substantial amount of acreage that should have been included on the impaired waters list.

The Act also requires that water segments should be defined as impaired if monitoring reveals "significant declines in aquatic life biodiversity of populations." § 62.1-44.19:5(C)(1)(v). However, the 2004 report once again does not address the absence of underwater grasses. Data on grasses is available to DEQ from the Chesapeake Bay Program, and should be included in the report so citizens can get a complete picture of the quality of Virginia's waters.

Finally, the Act requires that DEQ use unannounced inspections and a mobile laboratory, and that the Integrated Report should be developed in consultation with scientists from state universities. § 62.1-44. 19:5(B)(6),(B)(7),(D)(1). There is no indication that DEQ met these requirements in preparing the 2004 report.

Thank you for this opportunity to comment on the 2004 Integrated Report. Please call me at 780-1392 If you have any questions or would like to discuss these comments further.

Sincerely,

Roy A. Hoagland
Virginia Executive Director

June 2, 2004

Mr. Roy A. Hoagland
Virginia Executive Director
Chesapeake Bay Foundation
Capitol Place
1108 East Main Street
Suite 1600
Richmond, Virginia 23219

Re: 2004 Virginia Water Quality Assessment 305(b)/303(d) Integrated Report

Dear Mr. Hoagland:

My thanks to Jeff Corbin and Elizabeth Andrews for meeting with me on May 12th and for providing your written comments on the 2004 305(b)/303(d) Water Quality Assessment Report. Your letter raised several concerns that we shall try to respond to.

We concur with your comments that the Executive Summary of the Assessment Report needs to be amended. We shall attempt to better summarize the technical information found throughout the report in a revised Executive Summary. We anticipate a final assessment report will be ready for release by July 1st.

The seven-page Executive Summary attempts to highlight the key findings in a report (with appendices) of more than 1800 pages. We do not see a way to shorten the Executive Summary to three pages as your staff suggested while also meeting your request to add fish advisories and short summaries on the water quality of each of the nine major river basins to it. We can add a list of the fish advisories to the Executive Summary and refer readers to Chapter 6.5 for more information. Likewise, we can refer readers of the Executive Summary to Chapter 3.2 for information on the individual river basins. Other comments received about the Executive Summary make us inclined to move Table 3.3a-1, which has a historical segment comparison, into that section.

Over the past several years we have received feedback that citizens have found our Geographical Information System application, located on the web at http://www.gisweb.deq.state.va.us very helpful in making the information in the assessment report easier for the public to use. We hope that the Assessment Report itself can be as useful for Virginia citizens.

As discussed with Ms. Edwards during her earlier meeting with members of my staff, water segments cannot be defined the same from one assessment to the next, primarily because of changes in methodology EPA required in both the 2002 and 2004 assessments. In 2002, we were required to reduce the amount of area an individual water monitoring station could represent in an assessment. In 2004 we were required by EPA to go to a considerably different assessment designation procedure. For this reason, the Executive Summary attempted to highlight impaired area in miles, acres, and square miles, which is a more accurate measure of waters in attainment and waters impaired from one assessment to the next. Although a historical comparison using the number of segments is found in Table 3.3a-1, as we discussed with Ms. Edwards, a 2004 "segment" and a "1998" segment are not at all the same and can be misleading without using other measures in the comparison. Impaired area will be a better way to compare future assessments to the 2004 assessment.

Water quality standards are used to determine if waters are listed as impaired or determined to be in attainment. Scientists from state universities, via the Academic Advisory Committee, are consulted whenever a major change to water quality standards is made. Virginia is currently developing standards for nutrients with the help of the Academic Advisory Council. Scientists are also consulted anytime a significant change in assessment methodology is made. For example, Old Dominion University was involved in the development of the new estuarine random benthic monitoring assessment method (B-IBI) used for the first time in the 2004 assessment.

DEQ has numerous listings of impaired waters for benthics in the 2004 assessment. These listings are based on "significant declines in aquatic life bio-diversity or populations." We acknowledge that the absence of SAV has not been identified as the specific cause of an impairment, although the report refers to a General Standard violation for these waters. As you know, DEQ is pursuing development and adoption of Chesapeake Bay-related water quality standards that are meant to address water clarity conditions that are more favorable for submerged aquatic vegetation. We are also considering adoption of SAV acreage criteria, which will be a new bio-criteria approach for the Virginia Standards. Once adopted, these new standards will be used in future water quality assessments.

DEQ thinks some distinction must be made between those areas, where actual data shows a water quality problem, and those areas where there is no data. Impaired water listings lead to some follow-up action, either development of a Total Maximum Daily Load (TMDL), amendment of a point source permit, or a study to determine if it is appropriate to change water quality standards for a given water body. Where no data exists we do not think it practical to list waters impaired when none of the follow-up actions noted above would reasonably be required. That is why both seasonal shellfish closures, where the closure is due solely to the potential for contamination but no supporting data exists, and the one general fish advisory for Kepone are listed in Category 2B as Waters of Concern.

A summary of a 1998 trend analysis conducted for DEQ by Virginia Tech is included in Chapter 6.1 of the assessment report. DEQ has continued to monitor for trends and the result of an updated analysis will be included in the 2006 report. In addition, more recent trends for the Chesapeake Bay tributaries are shown in Chapter 6.7 of the assessment report.

Finally, reports on unannounced inspections of point source dischargers are not a function of the 305(b)/303(d) report. We refer you to our Compliance Program for information on these matters.

I hope that we have responded to all of your comments. If you would like to discuss any of these matters we are available to have another meeting.

Sincerely,

Alan E. Pollock

cc: Larry Lawson
Darryl Glover

Commenter: Nathan Evans, Chesapeake Bay Foundation

Sent: Thursday, July 08, 2004 1:03 PM
To: Pollock,Alan
Cc: Jeff Corbin - ext. 310; Roy Hoagland - ext. 301; kslaughter@selcva.org
Subject: Revised Executive Summary Comments

Dear Mr. Pollock,

The Chesapeake Bay Foundation (CBF) greatly appreciates the opportunity to review the Department of Environmental Quality's (DEQ's) revised Executive Summary of Virginia's 2004 305(b) and 305(d) integrated report. We agree that a well-written Executive Summary is critical to communicating the results of the assessment report to the public. The changes that DEQ made to the earlier draft are laudable, and the revised summary is certain to be more accessible to interested citizens.

Although the revised Executive Summary has vastly improved, CBF offers two small suggestions. The first is that Table 1.1-3 includes footnotes to explanations of the Virginia subcategories in the assessment report. We agree that the full-page description of the subcategories that was contained in the earlier draft of the Executive Summary was unnecessary, however, adding a footnote to their description in the assessment report may make the table easier to understand.

Our second suggestion is that the Executive Summary explain why EPA Category 5 waters decreased from 44% in 2002 to only 12% in 2004 without a reciprocal increase in water quality. We feel it is important for the public to understand that the dramatic decrease in Virginia's impaired waters is attributable to a change in DEQ's methodology for calculating the percentage of impaired waters rather than improved water quality.

As a final note, we are curious as to why EPA Category 1 waters decreased so noticeably between drafts of the Executive Summary. We would appreciate any explanation you have to offer.

We thank you again for the opportunity to review the Executive Summary, and commend you on your fine work compiling this critical water quality report. If you have any questions, please don't hesitate to call me at (804) 780-1392.

Nathan Evans
Chesapeake Bay Foundation
Legal Assistant

Response to Nathan Evans – Chesapeake Bay Foundation

From: Glover,Darryl
Sent: Friday, July 09, 2004 3:10 PM
To: 'va_intern3@savethebay.cbf.org'
Cc: Pollock,Alan; 'kslaughter@selcva.org'
Subject: RE: Revised Executive Summary Comments

We appreciate the time you took to review and comment on proposed changes to the Revised Executive Summary in the 2004 305(b)/303(d) Integrated Assessment Report. You raised a few comments and questions to which we have the following reply.

We agree that a footnote in the first summary table (Table 1.1-3) to an explanation of the Virginia subcategories would be useful. We are contemplating additional changes to the Executive Summary, including possibly moving the existing summary tables to Chapter 3.1, Water Quality Assessment Summary, or supplementing them. If we do this, new tables in the Executive Summary might be added to simply show impaired, not impaired, and indeterminate area for each waterbody type. A possible example follows:

Water quality	Stream/River miles	Percentage of total
Good	4,445	8.7
Impaired	6,931	13.8
Indeterminate	39,150	77.5
Totals	50,527	100

Your comment about the apparent decrease in Category 5 waters gets to the very misconception that the public has about prior assessment reports. The statistics on the condition of waters in the state have rarely been clearly reported in the press. Approximately 14% of ALL rivers and streams throughout Virginia, are known to be impaired as of the 2004 assessment. However, approximately 55% of the waters MONITORED FOR THE 2004 REPORT were found to be impaired and needing a TMDL. Prior press reports have focused on the latter statistic, which was approximately 45% in 2002, but implied that it was indicative of the entire state. It has never been accurate to assume that because x percentage of the waters monitored were found impaired, that the same percentage can be extrapolated to the remainder of Virginia. This is particularly true for rivers and streams, although less true for lakes and estuaries, because we only made assessment determinations on approximately 22% of the rivers and streams in the state, while we monitored a much higher percentage of lakes and estuaries (approx. 85% of lakes and 99% of estuaries) statewide. As a result, we are considering adding a new type of historical comparison to the Executive Summary, one that looks at impaired area over time for different waterbody types (please note: the following numbers are not real numbers)

Impaired Waters Identified Per Assessment Cycle				
Waterbody Type	**1996**	**1998**	**2002**	**2004**
Rivers/Streams (Miles)	2,000	2,600	4,800	6,900
Lakes/Reservoirs (Acres) 17,000	0	115,000*	90,000	
Estuarine (Sq miles)	500	400	1,600	1,900

If we use something similar to the mock table above, it could replace Table 1.1-2, which shows impaired segments. Using impaired area is a clearer measure than impaired segments, the delineation of which has changed over the years, and continues to change with each report.

Lastly, you asked about the decrease in Category 1 waters (all designated uses met) from the March 2004 draft report to now. The EPA Category System is being used by Virginia for the first time in the 2004 report. Review of the draft assessment data by the regional DEQ offices that generated it, showed some instances where Category 1 waters should have been either Category 2 (i.e. met standards for uses monitored for) or Category 3 (insufficient information).

If we have not addressed all of the items you raised, and you would like additional information, please let me know.

Darryl M. Glover
Water Quality Monitoring and Assessment Manager
Department of Environmental Quality
Office of Water Quality Programs

Commenter: William Damon, Jr. U.S. Forest Service

United States
Department of Agriculture
Forest Service
George Washington & Jefferson National Forests
5612 Valleypointe Parkway
Roanoke, VA 24019-3050
540/265-5100

File Code: 2530-4
Date: April 15,2004

Darryl M. Glover
Water Quality Monitoring and Assessment Manager
Virginia Department of Environmental Quality
P. O. Box 1009
Richmond, VA 23240

Dear Mr. Glover:

Thank you for the opportunity to review and comment on the Draft 2004 305(b)/303(d) Water Quality Assessment Integrated Report. We have the following comments on specific streams from the supplemental list of Category 5 waters as listed in Chapter 3.3b.

1. VAS-P12R-01 Bark Camp Branch. The source is listed as unknown. We strongly suspect the source of impairment to be acid deposition based on the low pH values and the abundance of acid tolerant insects present in the samples. Further, this watershed is adjacent to and underlain by the same geology as Machine Creek (VAS-P11R-11), which is listed as impaired with the source identified as "acid rain deposition". Based on the data, we recommend you identify the source of impairment for Bark Camp Branch as acid deposition.

2. VAS-P17-R-05 Dark Hollow. The source is listed as unknown. We strongly suspect the source of impairment to be acid deposition based on the low pH values and the abundance of acid tolerant insects present in the samples. Further, this watershed is adjacent to and underlain by the same geology as Machine Creek (VAS-P11R-11), which is listed as impaired with the source identified as "acid rain deposition". Based on the data, we recommend you identify the source of impairment for Dark Hollow as acid deposition.

3. VAS-P17-R-06 Roaring Branch. The source is listed as unknown. We strongly suspect the source of impairment to be acid deposition based on the low pH values and the abundance of acid tolerant insects present in the samples. Further, this watershed is adjacent to and underlain by the same geology as Machine Creek (VAS-P11R-11), which is listed as impaired with the source identified as "acid rain deposition". Based on the data, we recommend you identify the source of impairment for Roaring Branch as acid deposition.

4. VAS-P19R-02 Poor Valley Creek. The U. S. Forest Service bioogical monitoring station 9120 that Forms the basis for the determination of impairment is not located in Poor Valley Creek. The sample site is not located within the reach listed as impaired. It is located on a small headwater tributary of Scott Gap. Further, the determination was based on one sample taken in May of 1998 during a drought Year. There is an abundance of category 5 listings with comments in the Impairment Cause reflecting the belief that extremely low flows during the drought of 1998-2002 may have been to blame. We believe that to be the case in this instance as well. We recommend Poor Valley Creek not be listed as impaired until such time that scientific data can be obtained to support the listing.

5. VAV-B11R-01 Falls Hollow. The source listed is unknown. Long term monitoring shows that during normal flow years the benthic macroinvertebrate scores are good to very good. However, during the drought years of 1998 and 1999, the scores were poor/fair. This is consistent with low flow characteristics of these watersheds. Without a doubt, the low scores for this stream are a result of the low flows during the drought years. We recommend this stream not be listed as impaired.

6. VAV-B31R-03 Toms Branch
   VAV-114R-03 Panther Run
   VAV-117R-03 South Fork Pads Creek

   The source impairment listed for these streams is acid deposition. Water quality measurements for all these streams indicate average pH's in the range of 6.5 to 7.1, with relatively high ANC's. Benthic macroinvertebrate scores from normal flow years are good to very good. However, during the drought years of 1998-2001, the scores were poor/fair. This is consistent with low flow

characteristics of these watersheds. We feel the low scores for theses streams are a result of the low flows during the drought years , and certainly not acid deposition. We recommend these streams not be listed as impaired.

7. VAV-B13R-01 Tunnel Hollow. The source of impairment listed for this stream is acid deposition. Water quality measurements from this stream indicate and average pH of 6.7, with ANC over 200µg/l. The U. S. Forest Service biological monitoring station 2021 that forms the basis for the determination of Impairment is actually a headwater tributary of Tunnel Hollow. This tributary is shown as intermittent on the topographic map. The U. S. Forest Service biological monitoring station 2020, which is on Tunnel Hollow downstream from 2021, has had very good benthic macroinvertebrate scores (received the highest score of 18) for four consecutive years (1999-2002). Water quality at Tunnel Hollow site 2020 has an average pH of 7.3 and ANC of 410µg/l. The poor/fair macroinvertebrate scores of the Tunnel Hollow tributary during the years 1999-2001, is consistent with low flow characteristics of this watershed. We feel the low scores for this tributary stream are a result of the low flows during the drought years, and certainly not acid deposition. Further, our monitoring of Tunnel Hollow has shown that this stream exceeds benthic standards. We recommend this stream not be listed as impaired.

8. VAW-122R-03 Crawford Branch. The source of impairment listed for this stream is unknown. This determination was based on one benthic macroinvertebrate sample taken in June of 1999 during a drought year. This small headwater stream is listed as intermittent on the topographic map, and is designated as having "insufficient flow to support a fishery" by the Virginia Department of Game and Inland Fisheries. There is an abundance of category 5 listings with comments in the Impairment Cause reflecting the belief that extremely low flows during the drought of 1998-2002 may have been to blame. We believe that to be the case in this instance as well. We recommend Crawford Branch not be listed as impaired.

9. VAS-N26R-02 Standrock Branch. The source of impairment listed for this stream is unknown. the determination was based on one benthic macroinvertebrate sample taken in May of 1998. I had a MAIS score of 11, which placed it in the "poor/fair" category for streams in the same ecological section. However, a repeat of sampling at that site in March of 2004 resulted in a MAIS score of 16, which is a "good" score. In 1998 the sample was dominated by species indicating poor water quality; the sample currently contains a community that indicates good water quality. Two additional samples were taken in March 2004 at locations higher up Standrock Branch. These two locations has MAIS scores of 18 (very good) and 17 (very good). These samples indicate Standrock Branch currently has good water quality. We believe the low macroinvertebrate score from 1998 reflects the drought conditions at that time. Based on current and more extensive sampling during this normal flow year, we do not feel the stream is impaired and recommend it not be included in the final 2004 303d list.

If you need any additional information or would like to discuss this further, please contact Gary Kappesser, Zone Forest Hydrologist (540/265-5158) or Dawn Kirk, Forest Fisheries Biologist (540/291-2188). Thank you for your consideration of our comments.

Sincerely

/s/ Patricia Egan

for

William E. Damon, Jr.
Forest Supervisor

cc: Barnie Gyant, Cindy Holland, Patrick R. Sheridan, Kara Chadwick, Cynthia R. Schiffer, Frank R. Beum, Doug Jones, John Bellemore.

Response to William Damon, Jr. – United States Forest Service:

All comments received concerning specific waters have been considered and addressed by the final 2004 Integrated Assessment Report (August 2004).

Commenter: Eileen Leininger, City of Newport News, Virginia

Newport News Waterworks is pleased to offer the following comments on the subject draft report: The City of Newport News owns and operates the Lee Hall and Harwood's Mill Reservoirs, both of which were listed as impaired "5A" waters due to concentrations of dissolved copper in exceedance of the water quality standards for the two designated uses: Aquatic Life Use and Wildlife Use. These reservoirs were constructed in 1893 and 1917 as drinking water supply reservoirs and they have been used for this purpose since construction. Both reservoirs serve as the raw water sources for the Lee Hall and Harwood's Mill treatment plants, which serve approximately 400,000 people. As is typical of reservoirs in Southeastern Virginia, high levels of algae can and do occur, which is problematic for drinking water utilities. The major impacts from high concentrations of algae are bad taste and odor compounds, high levels of disinfection by-products and poor treatment plant performance. The standard treatment for algae in drinking water reservoirs is the application of copper sulfate to the reservoirs to eradicate the algae. It is directly a result of our application of copper sulfate to control algae for our drinking water customers that caused the exceedance of the dissolved copper water quality standard. The data that prompted the listing was submitted by USGS in conjunction with a study they are performing for us to learn more about algal growth in the reservoirs.

The application of the water quality standards for Aquatic Life Use and Wildlife Use for public water supplies does not seem appropriate. There is a critical need to manage the reservoirs for drinking water purposes. The application of copper sulfate is a targeted program that has been designed to manage algal blooms without harm to the aquatic system. We monitor raw water on a daily and weekly basis at the treatment plants, and monthly at monitoring stations located throughout the reservoirs. We also sponsor cooperative investigations with the USGS and State universities to further our understanding of the role of copper and nutrients in the reservoir system. We also monitor water clarity and photic zone depth to ensure that our dose rate and application techniques are designed and implemented using the optimum concentrations for management of algae. Our water treatment plant operators and lab staff work together to time the application of our copper sulfate for peak effectiveness and our monitoring crews provide feedback to this operation.

In addition to these normal operations, Waterworks has a proactive watershed program that has constructed regional wet detention ponds to control stormwater runoff. We have worked with York County to create a reservoir protection district that requires development projects to provide water quality protection and treatment. We have diverted small basins from our watersheds to specifically reduce contaminants and threats to water quality. In short, our dedication to watershed protection continues to be one of Waterworks' most important priorities.

We manage Lee Hall and Harwood's Mill Reservoirs to provide the Peninsula's water customers with high quality water treated water. We ask that these reservoirs be evaluated with respect to the Designated Use - Public Water Supply. If you have any questions, please contact Michael L. Hotaling, Newport News Waterworks Facilities Manager, at 757-234-6703 to discuss.

Eileen M. Leininger, P.E.
Assistant Director
Newport News Waterworks
700 Town Center Drive - Suite 500
Newport News, Virginia 23606

Response to Eileen M. Leininger – City of Newport News, Virginia:

July 13, 2004

Ms. Eileen M. Leininger, P.E.
Assistant Director
Newport News Waterworks
700 Town Center Drive – Suite 500
Newport News, Virginia 23606

Re: Newport News Waterworks' Comments on DEQ Draft 2004 Integrated Report

Dear Ms. Leininger:

In reference to the comments submitted by Newport News Waterworks on May 17, 2004, regarding Lee Hall and Harwoods Mill Reservoirs' assessment in the draft Integrated Report, the following response is provided.

The application of water quality standards for Aquatic Life Use and Wildlife Use to the Lee Hall and Harwoods Mill Reservoirs public water supplies is mandated by DEQ's Virginia Water Quality Standards **9 VAC 25-260-10.** Section 10-A, 'Designation of Uses' states that all state waters are designated for the uses comprising the Aquatic Life Use ("the propagation and growth of a balanced, indigenous population of aquatic life") and Wildlife Use as assessed in the Integrated Report. In addition to the Aquatic Life and Wildlife uses, sections 410 and 520, describing Lee Hall and Harwoods Mill Reservoirs respectively, indicates (using special standard for PWS) these two reservoirs are public water supplies. In effect 9 VAC 25-260 and the additions in sections 410 and 520 require the criteria for each of five uses (Aquatic Life Use, Wildlife Use, Public Water Supply Use, Swimming Use, and Fish Consumption Use) be applied to these two reservoirs. The exceedence of the dissolved copper criteria associated with aquatic life (as listed in 9 VAC 25-260-140) in these two reservoirs was the basis for the impairment of the Aquatic Life Use in the draft Integrated Report. Additionally, this same aquatic life criteria is used to assess the Wildlife Use. The DEQ's Virginia Water Quality Standards 9 VAC 25-260 is viewable at www.deq.virginia.gov/wqs.

Although the draft Integrated Report identified Lee Hall and Harwoods Mill Reservoirs as impaired for the Aquatic Life and Wildlife uses, the report identifies these reservoirs as fully supporting the Public Water Supply Use. This indicates that although the dissolved copper concentrations in these reservoirs impacted the Aquatic Life and Wildlife uses, there was no evidence of impact to human health. This is evidenced by the fact the dissolved copper concentrations were several orders of magnitude below the criteria for human health impairment in public water supplies, as listed in 9 VAC 25-260-140.

In reply to your request for a TMDL model for reservoirs impaired due to the addition of copper sulfate, we do not currently have such a tool available. No TMDLs have been developed in Virginia to date for copper. No decision has been reached on how best to balance the need to add copper to reservoirs while protecting the aquatic life that resides in them. DEQ's TMDL staff will begin exploring this issue with EPA. Due to the now hundreds of other TMDLs already scheduled with more common causes, it is likely to be several years before the copper question is addressed. We invite the City of Newport News to work with us on this issue at that time.

DEQ appreciates the time and effort you have taken in the review of the draft Integrated Report and the subsequent comments you have provided. We hope this response to your comments provides a better understanding of the rationale used in the assessment of these two reservoirs.

Sincerely,

Darryl M. Glover
Water Quality and Assessment
Program Manager

cc: Roger Everton, DEQ Tidewater Office
Steven Cioccia, DEQ Tidewater Office
Charles Martin, DEQ-TMDL
Harry Augustine, DEQ-WQMA

Commenter: Christopher Seibert, Va Department of Transportation

As a representative of the Environmental Section of the Virginia Department of Transportation, Richmond District, I have been able to review a copy of the draft Water Quality Assessment Integrated Report that I downloaded from DEQ's website.

I have relatively few comments except to say that, due to the mechanics of reporting the data, the report appears to give the impression that the waters of Virginia are getting worse rather than better. This could create public relations problems for the project. It gives the impression that the efforts taken have been for naught, which, in turn could raise problems for future funding among the public and among the politicians. I would recommend somehow showing the results in a more positive manner. We know that, from an overall point of view, the waters are indeed improving and we applaud the efforts that have been made.

Several chapters, particularly Chapter 3.2, have tables showing the status of waters and whether or not they meet the cleanliness criteria. The titles of the tables and the headings of some of their columns have the word "Sizes" in them. The reader can understand what the tables are trying to express, but, it seems to me that the word "Size" is not quite the right word. Nor would the word "Amount" be correct. In my opinion, the titles and headings would actually be more accurate, and perhaps more clear, if the word "Size" were to be eliminated altogether. The title would then become "Waters Not Meeting..." ; and the column headings would then become "Fully Supporting" and "Total Impaired". A table sub-title would then become "All Figures Rounded to the Nearest Whole Number".

My downloaded copy did not contain Figures 4.1-1, 4.1-2, or 4.1-3, nor Tables 4.1-2, 4.1-3, or 4.1-4. Perhaps I overlooked something. Also Table 4.1-5 was not listed in the List of Tables.

It seems to me that the heading of column 3 in Table 1.1-2 should say simply "Miles", because "Total" is not needed. Likewise, the same column of both Tables 1.1-3 and 1.1-4 should say "Area", rather than "Total Miles" because they deal with area.

I have enjoyed reading this report and learned a lot from it. I applaud your efforts in this undertaking. I do have considerable experience proof-reading and editing technical reports. If I can be of help, please let me know.

Chris Seibert, PWS
Architect/Engineer
Phone: 804-524-6109

Response to Chris Seibert – Virginia Department of Transportation:

Even though each subsequent assessment report finds additional impaired waters, the severity of pollution overall in Virginia's waters is undoubtedly better than it was when the Clean Water Act was passed 30 years ago. Your perspective is fairly unique in that you are more interested the progress that has been made in those 30 years. Since that time there has in fact been considerable progress especially when two important factors are added for consideration. One is the population, especially along the eastern urban corridor in Virginia, is notably larger that it was in the mid-1970. The second important factor is that water quality standards, i.e. the parameter limits against which we compare our monitoring results to determine whether or not water is impaired, have been made more stringent, especially within just the past several years.

Unfortunately however, most of those who comment on this report are interested in why waters are not meeting current water quality standards. In addition, both federal and state provisions require us to provide both an overall evaluation of Virginia's waters and a list of impaired waters.

As for the tables, the format of the tables provides the information that is expected. We shall make sure you receive all tables when we send you the final report after the Environmental Protection Agency approves it.

Commenter: Norm E. LeBlanc, Hampton Roads Sanitation District

HRSD Comments on 2004 Virginia 303(d)/305(b) Report

April 22, 2004

Mr. Darryl M. Glover
VA DEQ
Water Quality Monitoring and Assessment
P.O. Box 10009
Richmond, VA 23240

Sent by email on April 22, 2004 to D.M. Glover, DEQ

Dear Mr. Glover,

HRSD is providing herein its comments on the 2004 Virginia 305(b)/303(d) Water Quality Assessment Integrated Report.

We are very concerned about the length of the comment period for this report relative to the magnitude of the report. The report is well over 1900 pages long and DEQ has only provided a 30-day comment period for the report. Although DEQ has provided its Geographic Mapping System on the web this system does not provide maps of the areas covered by every listing. The descriptions provided for each listing do not adequately describe these areas; leaving the public to guess the areas in question and whether they are impacted by the listings. This can unintentionally affect the quality and quantity of comments received on the report.

VAMWA has provided extensive comments on the guidance used to develop this report. Since this report is a function of this guidance VAMWA's comments on the guidance are also relevant to the report and should be considered by DEQ as HRSD comments on the report.

We also believe there is an erroneous listing of the saline portion of the James River for nutrients. These listings have been designated as "over-listings" by EPA in the current and past reports. This listing, as pointed out in HRSD's comments for the 2002 Virginia 303(d) report, is not defensible and must be revisited. HRSD offers to meet with DEQ, at your convenience, to discuss and resolve these and other comments.

Sincerely,

Norm E. LeBlanc
Chief, Technical Services Division
(757) 460-4243
nleblanc@hrsd.dst.va.us

1. James River Basin, Mainstem, VAT-G10E-04, Listed for Nutrients and Turbidity

   a. This water body segment has been incorrectly listed as impaired due to nutrients; this conclusion is based on the following.

   1) DEQ states on the corresponding fact sheet that the impairment cause is nutrients and that this listing was based on an "EPA 1998 303d Overlisting". Review of the May 1999 letter (see attached) from

Michael McCabe, Regional Administrator, EPA Region III to Dennis Treacy, Director of DEQ documents that EPA did not list the James River. Item #1 of the letter lists all Virginia waters deemed by EPA to be impaired by nutrients based on dissolved oxygen. Item #1 does not include the saline James River. Item #3 identifies waters as being listed for nutrients; these are the Bay mainstem and the three tidal tributaries listed in item #1. Again, the saline James River is not listed in item #1. Item #4 of the letter states that EPA is identifying nutrients as a pollutant causing impairment in the estuarine part of the James River already listed in Part I of the 1998 303(d) list. Water segment VAT-G10E-04, the segment in question, was not listed in the 1998 303(d) list.

2) EPA Region III has stated that the EPA 1998 303(d) overlisting did not include the estuarine portion of the James River. (Thomas Henry, personal communication, May, 1999).
3) DEQ recognizes that the saline portion of the James River (between the transition zone and the river mouth) does not exhibit problematic dissolved oxygen concentrations based on data collected by EPA's Chesapeake Bay Program over the time period covered by this report. The James River cannot be listed for nutrients based on violations of the dissolved oxygen water quality standard.
4) The 2000 Tributary Strategy, "Goals for Nutrient and Sediment Reduction in the James River" prepared by Virginia DEQ and DCR did not conclude that nutrient reductions below the tidal fresh portion of the James River were necessary. Although a draft 2004 Strategy has been released, the water quality improvements expected from implementing the latest draft have not yet been delineated. The 2000 Strategy, which is the only current and accepted Strategy, does define the water quality needs of the saline James River and is believed to be valid.

Based on these facts, this listing must be removed from the 2004 303(d) list.

b. The 2000 Tributary Strategy and the 2004 draft Strategy for the James River identified sediments as a significant cause of impairment, and 95% of the sediments entering this river are from agricultural sources. The report lists "turbidity" as an impairment cause, however "turbidity" is a much broader term than "sediments" and does not accurately characterize the cause of impairment. There is no reference to sediments as a cause of impairment in this river and no TMDL is planned to address sediments. The report must be corrected to accurately reflect the conclusions of the Strategy.

c. The fact sheet impairment source information appears to be in error; it cites reduced benthic diversity as a cause for listing, but this specific water segment is not listed for benthic diversity.

2. James River Basin; Southern Branch, Eastern Branch and Mainstem of Elizabeth River; VAT-G15E; Listed for TBT

a. Although all TBT measurements made in these water segments exceed the chronic water quality criterion, these listings contradict DEQ's current 303(d) listing guidance which does not list any water segment based on exceedances of chronic water quality criteria. The chronic criteria averaging period is 4 days; the acute criteria averaging period is one hour. Grab samples, which are used to generate the TBT data for these water segments, can only represent periods of time on the scale of acute criteria (minutes up to an hour). Therefore, grab sample data translates well when compared to acute criteria, but not so for chronic criteria. DEQ acknowledges that a grab sample is not comparable to a four-day average (letter from A.E. Pollock, DEQ, May 3, 2001), and states that this is why DEQ is not using chronic criteria for water segment assessments. Since the acute criteria have not been exceeded for these water segments, they should not be listed for TBT.

b. Page 10 of section 6.5 is incorrect in stating that TBT instream concentrations cannot exceed the chronic criterion "at any time". As stated before, the averaging period for the chronic criterion is 4 days. Therefore 4 day average concentrations may not exceed the criterion; instantaneous representations of concentration are inappropriate for comparisons to the chronic criterion. Furthermore, the acute and

chronic standard can be exceeded once every three years; any exceedance of the standard does not necessarily violate the standard.

c. DEQ must recognize that EPA has recently updated the national chronic criterion for TBT from 1 ng/l to 7.4 ng/l. Therefore if DEQ uses the chronic water quality standard to list waters (even though this does not follow DEQ's own guidance) it must realize that TBT concentrations below 7.4 ng/l have no environmental consequence according to EPA. DEQ is urged to begin the process of revising the TBT water quality standards prior to TMDL development.

d. These listings state that the source of impairment is commercial port activities. Although HRSD questions the use of chronic standards to list waters as impaired, HRSD agrees with this statement and supports DEQ's conclusion that other sources are not responsible for perceived exceedances of these standards.

3. James River Basin, Elizabeth River & All Branches (mainstems), VAT-G15E, Listed for Nutrients

a. EPA "overlisted" this watershed for nutrients based on exceedances of the applicable dissolved oxygen standard and due to concerns regarding phosphorous and nitrogen. This is problematic for a couple of reasons. First, DEQ must recognize that water quality criteria for total phosphorous and nitrogen have not been promulgated in Virginia and therefore it is not possible at this time to conclude impairment based on concentrations of these two elements. DEQ only has guidance supporting listings based on these elements, and guidance is not binding in a regulatory context. Until criteria are promulgated for these elements DEQ should not support development and implementation of TMDLs based on these elements.

The overlisting is also problematic because it will likely result in TMDLs for these compounds even if these compounds are not the cause of unacceptable dissolved oxygen concentrations. TMDLs usually result in reductions of loads when standards are allegedly exceeded instream, with the understanding that these reductions will effect change in the quality of the water segment. In this case, the expectation is that reductions in phosphorous and nitrogen will result in decreases of chlorophyll and increases in dissolved oxygen. However, data for the Elizabeth River mainstem tracked over the past fourteen plus years contradicts this theory. For example, DEQ's report finds improving trends in TP and TN in mainstem surface waters while there is no discernable trend in dissolved oxygen over this time period in the same waters (DEQ's report only tracks bottom water dissolved oxygen). This was not expected because HRSD optimized nutrient removal at its VIP facility in 1995. The VIP is the largest single point source discharger to this part of the Elizabeth River. HRSD has calculated that the VIP is removing approximately 62% and 72% of the TN and TP, respectively, that once entered the Elizabeth River before VIP went on-line in 1992. Therefore, despite significant reductions in TN and TP to the river there was no improvement to the river relative to the indicators that are commonly used to grade water quality (dissolved oxygen). Municipal concern is that this listing will result in further reductions of loads, costing millions of dollars, without commensurate improvements in water quality.

b. The 2000 Tributary Strategy and the 2004 draft Strategy for the James River identified sediments as a significant cause of impairment. The report lists "turbidity" as an impairment cause, however "turbidity" is a much broader term than "sediments" and does not accurately characterize the cause of impairment. There is no reference to sediments as a cause of impairment in this river and no TMDL is planned to address sediments. The report must be corrected to accurately reflect the conclusions of the Strategy.

c. Municipalities believe that impairment in the Elizabeth River has not been accurately characterized and diagnosed; resulting in the potential for TMDLs that will fail to provide improvements. DEQ must also investigate the impact of permanent human modifications and use of the river (dredging, reduced currents and aeration, sedimentation, shipping) before causes

for impairment can be accurately assessed. This listing must be revisited before a TMDL can be initiated.

4. York River Basin, Upper & Lower York Mainstem, VAT-F26E-01, Listed for Nutrients

   a. EPA "overlisted" this watershed for nutrients based on exceedances of the applicable dissolved oxygen standard and due to concerns regarding phosphorous and nitrogen. This is problematic for a couple of reasons. First, DEQ must recognize that water quality criteria for total phosphorous and nitrogen have not been promulgated in Virginia and therefore it is not possible at this time to conclude impairment based on concentrations of these two elements. DEQ only has guidance supporting listings based on these elements, and guidance is not binding in a regulatory context. Until criteria are promulgated for these elements DEQ should not support development and implementation of TMDLs based on these elements.

      EPA's overlisting was based on exceedances of the dissolved oxygen water quality criteria. However, DEQ concluded that the lower mainstem bottom layer of the York River is not meeting the dissolved oxygen criteria due to natural conditions (VAT-F27E-03). HRSD agrees that the dissolved oxygen concentrations measured at these depths support the designated uses for these depths and are a function of natural conditions. This conclusion should result in removal of the dissolved oxygen data specific to this bottom layer from the data set used by EPA to list this water segment for dissolved oxygen. It is not possible to determine, within the comment period, whether removal of the dissolved oxygen data set for the lower mainstem bottom layer of the York River from the larger data set used to base this listing has taken place. DEQ must revisit this listing to ensure that the listing was not biased by data specific to the lower mainstem bottom layer because these values are not the result of anthropogenic activity.

   b. The 2000 Tributary Strategy and the 2004 draft Strategy for the York River identified sediments as a significant cause of impairment. The report lists "turbidity" as an impairment cause, however "turbidity" is a much broader term than "sediments" and does not accurately characterize the cause of impairment. There is no reference to sediments as a cause of impairment in this river and no TMDL is planned to address sediments. The report must be corrected to accurately reflect the conclusions of the Strategy.

5. The report presents shellfish water segments listed as impaired (assessment category 5B) based on VDH/DSS decisions that bacterial TMDLs are warranted for these segments. HRSD has several concerns regarding these listings:

   a. HRSD is unaware of any ambient exceedances of bacterial water quality standards for shellfish in the proximity of its outfalls and is unaware of any allegation that it is contributing to an exceedance of an ambient water quality standard for shellfish. DEQ must only list where observed contamination exists.

   b. HRSD consistently meets bacterial water quality standards at the edge of its mixing zones and according to its permits. Therefore HRSD should not be contributing to any ambient exceedances of the shellfish standards.

   c. Conditions within mixing zones for permitted wastewater dischargers should not be included in any ambient water quality segment assessment because these waters are administratively closed by DSS. These are presumably closed because the shellfish use has been removed in these areas.

   d. The report lists the source of bacteria for waters that HRSD discharges to as "unknown", however the 1998 303(d) list indicated that the source was point source and non-point source. DEQ's use of "unknown" in these waters, coupled with the observation that non-point sources are identified in other

waters as possible sources infers that the source could be HRSD. HRSD is unaware that it contributes to any ambient exceedance of water quality standards for shellfish.

e. Based on DEQ's listing guidance, the shellfish use is automatically removed if the use did not exist prior to November 28, 1975. HRSD believes that its James River plant (fish condemnation area #34, VIMS report to HRSD, Environmental Effects of James River Sewage Treatment Plant Outfall Construction, 1977) has been erroneously included in the report because its outfall was updated after this date. However, this outfall was present and operational before this date and the area condemned before this date. Therefore, the use did not exist prior to the update of the outfall (which also did not include an increase in flow for the plant) and this segment should not be listed for exceedance of the bacterial standard to protect shellfish. HRSD operates its plants at the same levels in wet and dry weather conditions, but the frequency of ambient bacterial standard exceedances increases significantly in wet weather conditions. HRSD believes that water segments that include its discharges, if they are actually impacted, are being impacted by non-point sources based on this observation. The James River plant spill that occurred in 2003 shows that a two million gallon discharge of partially diluted wastewater in this part of the James River had limited temporal and spatial impacts on the river and did not influence concentrations observed downstream. The high concentrations of bacteria measured at distance from this plant were due to non-point sources. Non-point sources should be listed as a source in the report for these water segments.

f. HRSD encourages DEQ to expeditiously conduct UAAs for the waters that HRSD discharges to if these waters have not been officially closed by the state and the shellfish use removed.

These concerns and questions emphasize the need for DEQ to take more responsibility regarding decisions made by DSS/VDH that impact the 303(d) list. The public has not been involved in these decisions, in contrast to the public process that is available when DEQ takes action impacting the public (water quality standard review, for example). The public must be allowed to participate in decisions that impact the public; this has not been the case for the 5B assessments of the report. Therefore the measures used in this part of the report to conclude impairment have not met any APA requirements and should not be used to list waters for impairment. These comments have been made repeatedly by VAMWA; HRSD supports those comments.

6. York River Basin, Moncuin Creek, VAP-F13R-04, Listed for fecal coliform

a. DEQ should be aware that even though the HRSD King William plant's outfall is located in Moncuin Creek that this plant has not discharged any effluent to this creek since February 17, 2000 (see letter to D. Barnes of DEQ Kilmarnock office). Since the measurements leading to this listing occurred after this date, this plant could not have contributed to the fecal coliform concentrations triggering this listing and therefore should not be considered an impairment source for this TMDL.

7. Virginia has not adopted numerical water quality standards for several of the parameters (nitrogen, water clarity, suspended solids) for which DEQ provides trends in section 6.7, pages 6-16 of the report yet DEQ uses numerical measures of these parameters to determine trends. Presumably these trends allow citizens to easily interpret and understand the conditions Virginia's waters. HRSD believes that the basis of these trend analyses do not provide for an accurate transfer of information to the public and therefore do not allow the public to understand the conditions of Virginia's waters. Finally, HRSD takes exception to the report status key for each watershed because these are either based on criteria that have not undergone an APA process or are simply based on an arbitrary subdivision of the distribution of the data. For example, "poor" only means that data falls in one third of the data distribution (right or left third depending on the parameter) for that parameter; it does not mean that the parameter in question is unacceptable in concentration to protect designated uses. Again, this may not be an accurate representation of instream conditions and may not accurately inform the public.

8. Page 8 of section 6.7 includes a text box that attempts to justify the report's approach to assessing water quality status as poor, fair or good. The text box states that "major scientific studies have shown that the Chesapeake Bay system is currently nutrient enriched and has excessive and detrimental levels of nutrients and sediment pollution". Although it may be true that some parts of the Bay are nutrient enriched, the lower Bay is not considered enriched according to DEQ and the Chesapeake Bay Program. Therefore this statement exaggerates the condition of some parts of the Bay. DEQ cannot claim in this text box that most waters of the Bay are in "poor" condition relative to ideal conditions for nitrogen, water clarity and suspended solids if the quoted text is not factual, particularly when "ideal conditions" have not yet been defined for the Bay and these parameters.

Response to Norm LeBlanc – Hampton Roads Sanitation District:

Comments about the 2004 assessment methodology were previously received, reviewed, and responded to.

The thirty-day public comment period has been used for the assessment for the last few cycles. Comments that come in after the end of the comment period have also been read and considered. Most comments do not involve the entire document. We have found them to normally be limited either to the listing status of a few specific waters of particular concern, or to the presentation of the overall findings in the report.

EPA overlisted areas in Virginia's tidal waters will remain listed as impaired until new Chesapeake Bay Program-related water quality standards are adopted. Once adopted, such waters will be monitored against the new standards. If data supports delisting, such waters, including sections of the James River will be delisted at that time.

The VA water quality standards regulation predates the Clean Water Act. State standards for shellfish existing even as far back as the 1960's. Although VDH issues administrative closures of shellfish waters near outfalls, the water quality standards regulation was never amended to remove the shellfish use so there was and still is a shellfish designation in place and the more stringent shellfish criteria for bacteria apply.

Commenter: Frank W. Harksen, Jr. – Hanover County Utilities

April 23, 2004

By Email (dmglover@deq.state.va.us) and First Class Mail

Department of Environmental Quality
c/o Darryl M. Glover
P.O. Box 10009
Richmond, VA 23240-0009

Subject: Comments on Draft 2004 305(b)/303(d) Water Quality Assessment Integrated Report

Dear Mr. Glover:

Thank you for the opportunity to comment on the Draft 2004 305(b)/303(d) Water Quality Assessment Integrated Report ("Draft Report"). Due to the State's actions to modify the Water Quality Standards, Nutrient Enriched Waters Policy, Tributary Strategies, Laboratory Certification Program and Impaired Waters Report in close proximity to each other, we have only been able to provide a quick review of the subject document. On behalf of the Hanover County Department of Public Utilities, the following comments are provided.

General Comment:

Hanover County has been submitting data to the Virginia Department of Environmental Quality ("DEQ") for approximately 25 years for the North Anna/Pamunkey River Stream segment between Routes 30 and 301. The data consists of weekly water quality analysis over much of the year (based on river and weather conditions) at 10 monitoring stations. Based on the information in the report and available via DEQ's web site and on-line Geographic Information System, it does not appear that much of this data was used or included in the analysis of water quality in the Draft Report.

Category 5 Waters – TMDL ID: VAP-F13E-01

Dissolved Oxygen

The dissolved oxygen data provided indicate this river segment is not impaired for this parameter. The Fact Sheet shows that only 10 out of 508 (1.97%) samples failed to meet the dissolved oxygen water quality standard – well below the 10% threshold. Also, the Monitoring Station List for the York River Basin includes an Ambient Monitoring Status Code of "S" (Supporting) for dissolved oxygen for the Assessment Monitoring Stations contained in the Fact Sheet. Therefore, this segment should not be listed as impaired for dissolved oxygen. The attached DEQ memo notes the river should be de-listed for the same reason.

Furthermore, the Fact Sheet information is inconsistent and does not match the data available via DEQ's web site and on-line Geographic Information System. The Fact Sheet notes the Upstream Limit of the impaired

segment is the Extent of tide at Totopotomoy Creek, river mile 60.22, latitude 37.66720 and longitude – 77.13670.

The latitude and longitude listed are for Assessment Monitoring Station 8PMK048.80 (river mile 48.80). The on-line Geographic Information System also shows the upstream limit of the impaired water to be Assessment Monitoring Station 8PMK048.80 (river mile 48.80) - Pampatike Landing, not river mile 60.22 – Totopotomoy Creek. Simply stated, the Fact Sheet river mile and narrative description are inconsistent with the latitude/longitude.

The dissolved oxygen monitoring data utilized for the assessment of VAP-F13E-01 was from Assessment Monitoring Stations 8PMK048.80, 8PMK034.17 and 8PMK006.36. Data from the Assessment Monitoring Station located at river mile 56.87 (8PMK056.87 – the one closest to the Fact Sheet listed upstream river mile limit) does not appear to have been considered as part of the assessment of this stream segment. Data available indicate there were no dissolved oxygen water quality violations at Assessment Monitoring Station 8PMK056.87.

Impairment cause of "EPA Listing" for this segment that was noted in the 2002 report is not shown as an impairment cause in the 2004 draft report. Due to the massive Pamunkey River tidal marsh area, the Environmental Protection Agency ("EPA") has determined that intermittent low dissolved oxygen in the marsh area is caused by natural conditions and the EPA's Chesapeake Bay Program ("CBP") modeling shows that a reduction in nutrients will cause an increase *in dissolved oxygen non-attainment. There were no chlorophyll A violations.*

In summary, the data shows:

- *that above the tidal marsh area there have been no dissolved oxygen water quality violations,*
- *that the dissolved oxygen water quality violations in the marsh area have been determined to be naturally occurring, and*
- *the few dissolved oxygen water quality violations below the marsh area are below the 10% threshold necessary to designate the river as impaired.*

Moreover, the CBP has determined that the York River basin has little if any affect on the Chesapeake Bay dissolved oxygen non-attainment areas and, as noted above, the modeling shows that nutrient reductions above the tidal marsh area cause an increase in dissolved oxygen non-attainment in CBP river segment PMKTF, which includes the tidal marsh area. If science is ignored and the political decision is made that some portion of the Pamunkey River must be listed due to EPA's earlier decision, this decision must be explained and identified on the Fact Sheet and in the narrative section. The listing should not extend upstream of the tidal marsh area. It would make no sense to control nutrients, the pollutants responsible for the low dissolved oxygen conditions, above the tidal marsh area when this would result in a degradation of water quality and the unnecessary expenditure of public and private funds.

Chloride and Estuarine Bioassessments

The 2004 cycle is the first time these impairments have been listed and generally apply from Sweet Hall Landing to the mouth of the York River. It appears from the York River Basin Monitoring List that the chloride listing is based on one sample and it is difficult to determine the source of the benthic impairment listing because the Assessment Monitoring Station is not provided. The York River Basin narrative section indicates the Virginia Save Our Streams Program monitored benthic macroinvertebrates which may have provided the data. These new impairments should be better described and consideration should be given to listing them as Category 3 waters. If they remain Category 5 waters, when the report is revised to eliminate the dissolved oxygen impairment, the revised segment should be limited to the areas of this new

impairment. If the decision is made that some portion of the Pamunkey River must be listed as impaired for dissolved oxygen due to EPA's earlier decision, the chloride and estuarine bioassessments impairments should be separated out from VAP-F13-E-01 and assigned their own TMDL ID since the TMDL due date is different than that for dissolved oxygen and so that the geographic boundaries can be more specifically identified.

Once again thank you for this opportunity to comment on this important report.

Yours very truly,

Frank W. Harksen, Jr.
Director

Attachment

Cc: Richard R. Johnson
John H. Hodges

Response to Frank W. Harksen, Jr. – Hanover County Public Utilities:

DEQ's Assessment Program staff was unaware that Hanover County is required by their Doswell Waste Water Treatment Plant (WWTP) VPDES permit to submit water quality monitoring data. However, please note that we did use data from 8-PMK056.87. The final report has a corrected fact sheet. The latitude-longitude error the county pointed out has been corrected. Please note that we are actively soliciting non-DEQ data and evaluate it to determine if it is appropriate for use in the 2006 assessment. If the county is interested in having DEQ use it in the 2006 assessment we shall give it a Quality Assurance/Quality Control review. Please refer to our solicitation of non-DEQ data for the 2006 assessment for instructions on how to submit non-DEQ data for consideration. This is found on our website at http://www.deq.virginia.gov/wqa/pdf/305b/datasol.pdf.

The Pamunkey was listed for dissolved oxygen because of the violation of the daily mean standard of 5.0 mg/L during the summer months. After the new Chesapeake Bay water quality criteria are adopted, the river will be assessed based on them. Until the adoption of those criteria however, the EPA overlisting and the current standard apply and the segment will continue to be listed as impaired. Please note that based on modeling and the 1995 special study, it is believed that during the summer months the dissolved oxygen in the Pamunkey below Pampatike Landing violates the *daily mean* standard of 5 mg/L. Although true that the violation rates in Appendix B are acceptable, those are violations of the *instantaneous* standard. EPA overlisted the entire tidal Pamunkey, which extended the impairment upstream. However, the tidal portion of river is still considered fully allocated with respect to DO - even at the fall line.

Individual impairments can be, and sometimes are, scheduled for TMDL development separately. For efficiency we try to avoid multiple listings of the same area by impairment. The entire report, with fact sheets and the other appendices, is nearly 2000 pages. Listing every impairment separately would make the report notably longer.

Commenter: Carl E. Bouchard – Fairfax County Public Works

COPY

FAIRFAX COUNTY

STORMWATER PLANNING DIVISION
DEPARTMENT OF PUBLIC WORKS
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12000 Government Center Parkway, Suite 449
Fairfax, Virginia 22035-0052

Darryl M. Glover
DEQ Water Quality Monitoring and Assessment Manager
P. O. Box 10009
Richmond, Virginia 23240

Subject: Draft 2004 305(b)/303(d) Water Quality Assessment Integrated Report

Dear Mr. Glover:

We have reviewed the Draft 2004 305(b)/303(d) Water Quality Assessment Integrated Report released by the Virginia DEQ on March 22, 20o04. According to the report, a total of 19 water bodies with drainage areas wholly or partially in Fairfax County are listed as Category 5 waters due to a variety of impairment causes that require the development of a TMDL.

We would like to apprise you of a significant watershed planning effort that was initiated by Fairfax County in 2002. The overall goal in developing watershed plans is to provide a consistent basis for protecting and restoring the receiving water system and other natural resources in the county. We expect plans to be completed for all 30 designated watersheds in the County by 2009. Watershed plans are currently being developed for five watersheds whose drainage areas constitute 42 percent of the County, and these plans will be completed by the end of 2005. Based on the schedule in the draft document, we anticipate completing watershed plans for all waterbodies in the Draft Integrated Report with drainage areas wholly or partially in Fairfax County before you initiate the TMDL development process for these waterbodies.

The watershed plans, which include the development of detailed water quality and quantity models, will provide a wealth of information and data to support the development of TMDLs. As such, we are requesting that when you initiate the development of a TMDL plan for waterbodies that have drainage areas wholly or partially in Fairfax County, any completed watershed plans for these waterbodies are carefully reviewed, and data from the plans utilized to the maximum extent possible. All pertinent information concerning our watershed planning effort can be obtained at www.fairfaxcounty.gov/watersheds.

We greatly appreciate the opportunity to comment on the Draft Integrated Report, and look forward to working with you in developing meaningful TMDL plans.

Sincerely

Carl E. Bouchard, P.E.
Director
CEB/kb/30536.doc
Cc: Fred Rose, Chief, Watershed Planning and Assessment Branch
Kambiz Agazi, Environmental Coordinator

Response to Carl E. Bouchard – Fairfax County Public Works:

DEQ greatly appreciates Fairfax County's interest in participating in the development of Total Maximum Daily Loads (TMDLs). Your input would be valuable to the process. Even though DEQ Central Office in Richmond coordinates TMDL development, most DEQ Regional Offices have a TMDL Coordinator. The best way for your locality to be fully involved in TMDL development throughout the process is by working with the regional TMDL Coordinator. Please contact our Northern Regional Office in Woodbridge.

Commenter: Patricia A. Jackson – James River Association

April 22, 2004

Mr. Darryl M. Glover
DEQ Water Quality Monitoring and Assessment Manager
P. O. Box 10009
Richmond, VA 23240

RE: Draft 2004 Virginia Water Quality Assessment 305(b)/303(d) Integrated Report

Dear Mr. Glover:

The James River Association is dedicated to the conservation and responsible stewardship of the natural and historic resources of the James River Watershed. On behalf of our 2300+ members, we have reviewed the Draft 2004 Virginia Water Quality Assessment 305(b)/303(d) Integrated Report and offer the following comments:

1. Beginning with the Executive Summary, the report does not provide an accurate and easily discernible picture of the health of the waters in the Commonwealth. In the Executive Summary, one must wade through four pages before seeing the first assessment of our waterways. Table 1.1-2, Assessment Results for Rivers, is confusing because it appears that only 4.3% of our rivers fully support all designated uses and only 13.7% are impaired. One has to do some math to realize that, of the 50,537 total miles of rivers, only 13, 218 miles, or 26.2%, had enough data for assessment.

Of the 13,218 miles that were assessed, 2,197 stream miles (16.6%) fully support all designated uses and 6,894 stream miles (52 %) are impaired. This indicates a further degradation of our rivers and streams from 44% in the last report to 52% in this report. Table 1.1-3, Assessment Results for Lakes/Reservoirs, and Table 1.1-4, Assessment Results for Estuarine Waters, provide the same confusing information. Our evaluation of the results indicates that 89,896 acres (82.7%) of Virginia's lakes and reservoirs, and 1,810 square miles (71.5 %) of estuarine waters, are impaired.

Using a more upfront and user-friendly approach, with numbers gleaned from waters that were actually assessed, would provide a more accurate picture of the status of our waters, and provide a better baseline for comparison in years to come.

DEQ should provide a summary report for the public that clearly states the extent of water quality impairment in their watersheds, including the number of miles impaired, the causes of impairment, and what precautions they should take. We understand that other states provide an opportunity for citizens to find such information by zip code online, and suggest that DEQ should do the same.

2. The expanded list of EPA categories, and associated Virginia subcategories, is an improvement. Listing each waterway by category provides a methodology to help ensure that all waters are addressed in some way. This will help to alleviate a previous concern which we had that when a TMDL Plan was prepared for an impaired stream, it was no longer listed. There will not be an assumption that a stream is no longer impaired simply because it has a plan.

3. Chapter 6.3 is entitled Cost/Benefit Analysis, but it is simply a description of existing funding programs and what they have funded. There is no description of the benefits to water quality and public health. There is no description of the costs to conduct a complete monitoring program of Virginia's waters, to complete the TMDL plans for all of the impaired waters, and to implement the TMDL plans to achieve compliance with water quality standards. There is no analysis of the benefits to public health, aquatic species, wildlife, threatened and endangered species, ecotourism, seafood industry, commercial fishing, property values, recreation, etc. that would be realized if 100% of Virginia's waters met water quality standards. Until a true cost/benefit analysis is conducted to identify the costs and benefits of clean and healthy waters, Virginia will continue to be 50th in the country in natural resources.

4. In Appendix E, Current Status of Virginia's TMDL Program under Virginia's Proposed 2006 TMDL Development Schedule (Revised 2/19/04), we find that no impaired waters in the James River Watershed are included. In fact, only one TMDL is due in 2008 and 77 are due in 2010. The other 119 segments that need TMDLs are scheduled for the 2014-2016 timeframe. We find this to be totally unacceptable.

5. As outlined in Chapter 3.3a, List of Category 5 Impaired Waters, TMDL development priority ranking is based on two factors: severity of the impairment and availability of "tools" to develop the TMDL. We believe that the impaired waters in the James River Watershed are as severely impaired, some more so, than other waters in the state. A perfect example is the main stem of the James near Hopewell, Bailey Bay, Bailey Creek and Cattail Creek. These waters are impaired for dissolved oxygen, pH, fecal coliform,

e.Coli, PCBs, nutrients/eutrophication biological indicators, chloride and estuarine benthics. This area is a heavily used for recreational fishing, boating, jet skiing, tubing, etc., and the tools are available for TMDL development. Significant data have been collected in this area for many years, and existing designated uses are being impacted. We can say with authority that, as part of the affected public, there certainly is interest in correcting these problems sooner, rather than later.

There are many other segments like these throughout the James River Watershed, which covers 25% of the state and is home to over one-third of Virginia's citizens. Because they are severely impaired and many of the TMDL tools are already available, we would like to see more of the impaired segments in the James River Watershed moved up on the priority list for TMDL development.

6. We are concerned that no public meetings on this topic were scheduled for the citizens of the Tidewater/Hampton Roads area, and that the meetings were scheduled during the daytime, when most citizens were unable to attend. The closest meeting for these citizens was held at the DEQ Piedmont Regional Office in Glen Allen at 10:30 am. By scheduling meetings at places and times that were inconvenient and inaccessible to over 50% of the population in the James River Watershed, many of our members and other citizens were denied public participation on a very important topic, which affects their health and quality of life. The lack of notification that the report was being released, lack of a briefing when it was released, and short public comment period further contributed to a poor public participation process.

   In summary, there is definitely a need for a much clearer document for the public to explain the current state of our waters, including maps that accurately depict the impaired waters. Perhaps if the State Water Advisory Committee established several years ago would actually meet, they could review this and other water-related documents prior to publication.

   Thank you for the opportunity to comment. These comments reflect those issues that we had time to address in the limited public comment period, and there may be other issues that will raise our concerns. We appreciate your consideration and inclusion of our comments in the public comment record.

Sincerely,

Patricia A. Jackson
President and CEO

Response to Patricia A. Jackson – James River Association:

In response to comments from several sources both the Executive Summary and Introduction have been substantially re-written in order to clarify the information in the report. New tables and a new map have been added to the Executive Summary that presents a quantitative summary of both the current and recent historical findings of assessments since the mid-1990s. In order to make the Executive Summary easier to read the detailed tables on subcategories were moved to Chapter 3.1 of the 2004 report.

We also explain in the revised Executive Summary why using the "impaired percentage of monitored waters" is not a meaningful way to compare one assessment to the next. Impaired waters will always increase from one assessment to the next because both present and previously discovered impairments are added together. Waters found impaired in one assessment, are included in all subsequent assessments until they are delisted. This is done even if some of these waters are not monitored again for a period of time. For this reason it is more accurate to look at the amount of increased impaired area and the table of newly listed impairments to get a sense of what has changed since the previous assessment.

Economic impact analysis, like trend analysis, is not a feature that will be updated with every assessment. Few things are changing from one assessment to the next with regard to either economics or trends. Consequently, each of them will be updated periodically. Trend analysis will be updated in the 2006 report. Economic impact analysis will be updated in a subsequent assessment report yet to be determined when resources enable such work to be contracted.

There was a press release in addition to a public notice in the Virginia Register on the day of the release of the draft assessment. Also, everyone on DEQ's assessment mailing list was mailed a copy of the public notice in advance of the release date. Since first used in 2002, that mailing list has grown to nearly 400. Further, the report was posted on our website and available for downloading. Nevertheless, we intend to do even more for future assessments. We are planning to have a public information meeting in every DEQ region when the 2006 assessment is released for public comment. In order to do this, DEQ regional staff will need to conduct several of these meetings. Although we did not have a public information meeting on the 2004 report in Tidewater, DEQ did give the same presentation at a meeting of local government staff at the Tidewater Planning District Commission Office in Chesapeake, during the public comment period. We received written comments from several local governments within the Tidewater area.

Regarding the comments about DEQ's TMDL development schedule in the James River basin, DEQ developed approximately 30 TMDLs throughout the James River basin during the 2003/04 biennium. These TMDLs already have been, or are in the process of being, approved by EPA. These TMDL reports, including a report covering bacteria impairments in the entire Appomattox River basin, can be reviewed at the TMDL web site www.deq.virginia.gov/tmdl/. Scheduling of TMDLs depends on many factors, including watershed-based project scoping, endangered species concerns and interstate priorities, among others. An updated revised schedule for upcoming TMDL development projects was recently posted for public comment and can be seen on DEQ's TMDL web site (05/06 schedule). This schedule includes a proposed TMDL development project for the Jackson River, a headwaters tributary to the James. Any additional concerns on the TMDL development schedule should be submitted to the TMDL program staff as indicated on the public notice.

Commenter: H. Clayton Bernick, III – City of Virginia Beach, Environ. Mgmt.

I realize your schedule is very full due to the scheduled Public Hearings; however, I think that the need still exists for an additional Public Hearing in the Hampton Roads area. There has been a lot of discussion concerning this matter among local staff and elected officials, as well as a major lead editorial in the Virginian Pilot criticizing DEQ for not holding a hearing here, as well as the confusing nature of the draft report to the general public.

I would urge you and the agency to reconsider and schedule an additional hearing in order to put the proper perspective on this issue. I think leaving the process as is (without a Public Hearing in this region) will be a real mistake in the long run, and could hinder efforts that will follow.

Please advise if you would like to discuss this further, at your earliest convenience. Thanks.

Clay

Clay Bernick
Environmental Management Administrator
City of Virginia Beach
Department of Planning
Environmental Management Center
2405 Courthouse Drive
Building 2, Room 115
Municipal Center
Virginia Beach, VA 23456-9040

Response to H. Clayton Bernick, III – City of Virginia Beach, Environmental Management:

There was not adequate time during the public comment period for the draft report to adequately notice an additional public information meeting however, DEQ staff did give a presentation on the assessment report at a meeting of staff from local governments in Tidewater during the public comment period. This meeting was held at the Tidewater Planning District Commission Office in Chesapeake. When the 2006 assessment is released, DEQ intends to hold public information meetings in every DEQ region.

Commenter: Darrell Schwalm – Loudoun Watershed Watch

Date: April 22, 2004
To: Darryl M. Glover,
DEQ Water Quality Monitoring and Assessment Manager,
P.O. Box 10009, Richmond, Virginia 23240
dmglover@deq.state.va.us
From: Darrell Schwalm
Loudoun Watershed Watch
Schwalmie@aol.com

Subject: Comments on 303(b)/305(d) Integrated Report

This is to provide comments by Loudoun Watershed Watch (LWW) under your Notice of Public Comment regarding the Draft 2004 305(b)/303(d) Water Quality Assessment Integrated Report (Integrated Report). Questions can be directed to Darrell Schwalm, Chairman, Stream Quality Data and Research Committee.

LWW is a consortium of citizen environmental organizations and local government authorities concerned with water quality and the health of streams in Loudoun County. LWW's goals are to support cooperative, countywide programs to monitor and protect Loudoun's water resources and to create watershed management plans. Communicating and educating the public regarding water quality and environmental stewardship issues is an important means of accomplishing these goals.

COMMENTS:

The Integrated Report reflects a tremendous amount of work done by regional officials to compile water quality and stream health information. The report does a good job in incorporating citizen data from Loudoun County submitted to DEQ, and reflects changes in assessments based upon these citizen data. LWW has the following comments about both the form and usefulness of the report, and about the substance of the report.

1. The Integrated Report does not include monitoring data collected by Loudoun County agencies. DEQ needs to be more effective in their solicitation of citizen and local agency data (e.g., Loudoun Soil and Water Conservation District (LCSWCD) and Loudoun Sanitation Authority). A more aggressive program will allow DEQ to receive and benefit from additional monitoring data for areas that DEQ does not have resources to monitor. **Attachment A** identifies the water segments that these LCSWCD data show do not meet standards and should have been listed under category 3C if this agency had submitted their data to DEQ. It should be noted that although DEQ did not use these data for the assessment, MapTech did use the LSWCD data to analyze trends in fecal coliform concentrations and to verify the calibrated fecal coliform simulation model for the Goose Creek TMDL.
2. The Integrated Report provides extremely important information, and it is evident that Regional authorities put in tremendous time and energy in preparing it. Regrettably, the assessment information is not organized and presented so as to communicate the findings in a useful manner to citizen monitoring groups and local agencies. This raises the question of who is DEQ's target audience and how many people does DEQ project need to read the report to make it a worthwhile investment of resources? This critique is based upon the following:
    a. The Integrated Report is not available in hard copy, as it has been in the past. Instead of tabbing pages of a hardcopy report, the reader needs to scroll though hundreds of pages on a computer screen.
    b. Dividing the assessment into the many categories needed by DEQ to track trends makes the report unintelligible to local officials and citizen groups. Data are disjointed in several tables, and it takes hours to find and extract information that can be used by local organizations to report the findings to their stakeholders.
    c. The PDF format precludes downloading data tables into another format for manipulation to meet local needs. Although useful information is provided in the supplemental CD, this also increases the difficulty of understanding and analyzing results.
    d. The report does not provide a list of all the impaired waters in Loudoun County. Some category 4A impaired waters are not listed at all in the report – i.e., Lower Goose Creek for fecal coliform.
    e. There are not always a clear correlation between assessment findings of individual stations as provided in the Supplemental List and the listing under each assessment category in Chapter 3.3. Note, for example, that the 1AGOO002.38 station is not marked as impaired on the supplemental table or listed under the 4A category. Instead 1AGOO002.38 and 1AGOO003.18 are color coded pink which indicates "observed effects" for benthics. But they are listed under category 5D rather than 3B. This is all very confusing.
    f. Little information is provided on waters that meet standards.
    g. It is recommended that DEQ establish focus groups involving stakeholders to determine how to better present the assessment information in a manner that can be used by stakeholders to support education for

TMDL implementation, local development of watershed management planning, and local stream monitoring. An example of a useful summary data table developed from the Supplemental List and Chapter 3.3 tables is attached in Table 2. This table took over 10 hours to prepare and required 5-6 phone calls and emails to DEQ officials to find and understand the information provided in this table.

3. The finding presented in this report illustrates that a major problem with stakeholder confidence in DEQ is looming in the future over DEQ's procedures for delisting impairments. This is based upon the following:
    a. For ambient watershed monitoring stations, data in the assessment window has often been reduced (truncated) to 12 samples. As a result, decisions to delist an impairment may now be based upon 12 samples taken over two year period with no resampling scheduled for another 7 years. This contrasts with decisions for trend stations that are based upon 30-50 samples. Delisting based upon 12 samples is allowed under Proactive Delisting Approach adopted by DEQ. Thus, the assessments for many of our waters will be based upon very truncated databases and the validity of the process will be greatly diminished. The number of samples in the assessment windows for DEQ monitoring stations in Loudoun County for the 2000, 2002, 2004, and projected 2006 assessment windows are provided in **Table 1**.
    b. The validity of the 305(b)/303(d) assessment process is also challenged because in many instances the same 12 samples will be used for three consecutive assessment periods. Then for the fourth through sixth assessment periods, a completely new set of 12 samples will be used.
    c. In two important instances, assessment findings conflict with findings in TMDL studies of watersheds. This challenges the credibility of the criteria used for the assessments.
        i. Catoctin Creek, 1ACAX004.57, assessment found an 8% violation rate (3 0f 38 samples) for fecal coliform for the 1998-2002 assessment window. TMDL report found a wide range of fecal coliform concentrations in the watershed. Historical rate of violation at station is 20%. MapTech confirmed this rate in a special TMDL study in 2001-2002.
        ii. At Goose Creek station 1AGOO002.38, the assessment also found an 8% violation rate (4 of 48 samples) for fecal coliform for the 1998-2002 assessment window. The TMDL report found that fecal coliform levels varied by season with highest levels during the summer months, and by runoff conditions with highest levels under high runoff. The observed geometric mean (cfu/100 mL) for 1AGOO002.38 was 198.28 while the modeled (simulated) geometric mean was 376.49 – a substantial difference. The simulation concentrations were higher than the observed concentrations because the simulated rates take into account the upper detection limit of 8,000 cfu/100 ml for the DEQ data in order to better approximate the observed trends in high flow concentrations. (It should be noted that unlike the Catoctin Creek study, the fecal coliform sample results collected by MapTech as part of their Goose Creek study has not been made public.)
    d. It is recommended that DEQ change the 305(b)/303(d) assessment criteria so more data are required before a water segment that has historically been impaired and before a TMDL Implementation Plan has been implemented is delisted based upon 12 samples taken over a two year period. It is also recommended that DEQ integrate findings of TMDL studies that show water quality varies under different conditions so assessment considers worst conditions just as the TMDL implement does.
4. **Table 2** provides an example of a summary of the assessment data for Loudoun County that will be used to communicate findings to stakeholders. The yellow highlighted cells show the type of information that would be useful to more effectively communicate assessment findings to stakeholders. It is important to have information about the total stream miles for subwatersheds and the total miles of waters without assessment data so local officials and citizen groups can prioritize needs to provide supplemental monitoring data for local watershed planning and TMDL monitoring.

Table 1. Analysis of the Number of Samples Used in the 305(b)/03(d) Integrated Report by DEQ for Loudoun County Waters – 2000 through 2008.

Watershed Monitoring Station	Type of Station	Number of Samples Used for Assessment					Comments
		2000	2002	2004	2006 (Projected)	2008 (Projected)	
Piney Run/Dutchman Creek A01							
1APIA001.80	Trend	20	22	17	24		
Catoctin Creek A02							
1ACAX004.57	Trend	49	51	38	35		
North Fork Catoctin Creek A02							
1ANOC000.42	**Ambient**	19	22	16	10		
1ANOC004.38	**Ambient**		11	11	12		
1ANOC009.13	**Ambient**		11	13	13		
South Fork Catoctin Creek A02							
1ASOC001.66	**Ambient**	20	22	17	11		
1ASOC007.06	**Ambient**		11	11	11		
1ASOC012.38	**Ambient**		12	12	12		
Limestone Branch A03							
1ALIM001.16	*Trend*	16	22	18	22		
Middle Goose Creek/Panther Skin A05							
1AGOO022.44	Ambient	48	50	47	33		
North Fork Goose Creek/Crooked Run A06							
1ANOG005.69	Trend	17	18	24	31		
Beaverdam Creek A07							
1ABEC004.76	*Trend*	19	21	28	32		
1ABEC011.19	**Ambient**			5	9		
1ANOB005.49	**Ambient**			5	9		

Lower Goose Creek A08							
1AGOO002.38	*Trend*	51	51	48	42		
1AGOO011.23	*Trend*			11	20		
Little River A08							
1ALIV001.70	TMDL			11	11		
1ALIV004.78	TMDL	20	24	29	22		
Sycolin Creek A08							
1ASYC002.03	TMDL	20	22	28	23		
1ASYC004.93	**Ambient**		10	10	12		
1ASYC007.43	**Ambient**		12	12	13		
1ASFS000.28	Ambient		11	11	12		
Tuscarora Creek A08							
1ATUS000.37	Trend	20	22	28	25		
Broad Run/Horsepen Run A09							
1ABRB002.15	Trend	49	50	36	31		
1AHPR003.87	Ambient	20	21	16	11		
1ASOR002.99				4	4		
Sugarland Run A10							
1ASUR004.42	Trend	17	18	19	20		

Table 2. Assessment of Loudoun County Streams by DEQ in the 2004 303(d)/305(b) Integrated Report to EPA.

Watershed Monitoring Station	Monitoring Location	Type Data	River Miles	Categories								
				2A – Meet Stnds	2B- Exceed Screening Value	3A – No Data	3B- Insufficient Data	3C- Citizen Data Show Problems	3D- Citizen Data Show No Problems	4A- Impaired with TMDL	5A- Impaired TMDL Needed	5D- TMDL Needed for Benthic
Piney Run/Dutchman Creek A01			**39?**			**31.9**						
1APIA001.80	Rt. 671	DEQ									3.52	
1ASDH-15-LWC	Unnamed Trib – BREC	Citizen						3.56				
Catoctin Creek A02						96.67						
1ACAX004.57	Rt. 663	DEQ								7.2		
1ACAX-3-LWC		Citizen						(NA)				
North Fork Catoctin Creek A02				3.16	0	?						
1ANOC000.42	Rt. 681	DEQ								4.12		
1ANOC004.38	Rt. 287	DEQ		3.16								
1ANOC009.13	Rt. 812	DEQ								2.45		
1ANOC-1-LWC								(NA)				
South Fork Catoctin Creek A02												
1ASOC001.66	Rt. 698	DEQ								5.77		
1ASOC007.06	Rt. 738											
1ASOC0011.98	Rt. 611	DEQ										3.4
1ASOC0012.38										5.17		
1ASOC012.60	Rt. 690	DEQ										(NA)
1ASOC013.05												
1ACSOC-4-LWC	Rt. 611	Citizen										(NA)

Watershed Monitoring Station	Monitoring Location	Type Data	River Miles	Categories								
				2A – Meet Stnds	2B- Exceed Screening Value	3A – No Data	3B- Insufficient Data	3C- Citizen Data Show Problems	3D- Citizen Data Show No Problems	4A- Impaired with TMDL	5A- Impaired TMDL Needed	5D- TMDL Needed for Benthic
Milltown Creek A02												
1AMIH-11-LWC		Citizen						2				
Limestone Branch A03						49.71		6.87			4.75	
1ALIM001.16	Rt. 15	DEQ									4.75	
1AXAQ-5-LWC	Rt. 661	Citizen						1.9				
1AXGJ-16-LWC	Tutt Lane	Citizen						4.97				
Middle Goose Creek/Panther Skin A05						oun)		**3.71**		**7.2**		
1AGOO02 2.44	Rt. 734	DEQ								7.2		
1APAE-12-LWC	Rt. 623	Citizen						3.71				
North Fork Goose Creek/Crooked Run A06						**41.29**		**4.64**		**4.29**		
1ANOG005.69	Rt. 722	DEQ								4.29		
1ACRF-6-LWC	Rt. 727	Citizen						2.08				
1ANOG-7-LWC	Rt. 762	Citizen						2.56				
1ANOG-1-NFGC		Citizen							(NA)			
1AJAC-2-NFGC		Citizen							2.89			
1ACRF-3-NFGC		Citizen							(NA)			

Watershed Monitoring Station	Monitoring Location	Type Data	River Miles	Categories								
				2A – Meet Stnds	2B- Exceed Screening Value	3A – No Data	3B- Insufficient Data	3C- Citizen Data Show Problems	3D- Citizen Data Show No Problems	4A- Impaired with TMDL	5A- Impaired TMDL Needed	5D- TMDL Needed for Benthic
1ANOG-4-NFGC		Citizen						2.47				
1ANOG-5-NFGC		Citizen						(NA)				
1ANOG-6-NFGC		Citizen							3.82			
1ASIM-8-NFGC		Citizen							1.03			
Beaverdam Creek A07				**3.62**		**54.54**		**4.00**		**6.32**		
1ABEC004.76	Rt. 734	DEQ								6.32		
1ABEC011.19	Rt. 626	DEQ		1.17								
1ANOB005.49	Rt. 719	DEQ		2.45								
1ANOB007.97	Rt. 831	DEQ			4.6							
1ABUS-10-LWC	Rt. 779	Citizen						1.11				
1ANOB-9-LWC	Rt. 630	Citizen						2.89				
Lower Goose Creek A08												
	Rt. 7	DEQ								4.77		(NA)
1AGOO003.18		DEQ										(NA)
1AGOO011.23	Rt. 621	DEQ										
		USGS			3.2							
Little River A08												
70	Rt. 15	DEQ								6.13		6.13
1ALIV004.78	Rt. 50	DEQ										(NA)

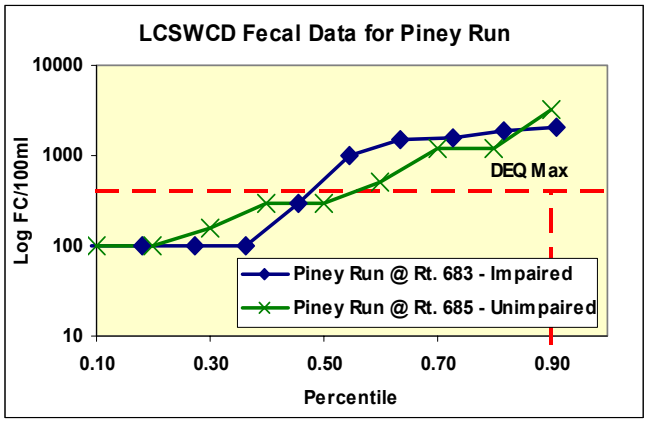
Watershed Monitoring Station	Monitoring Location	Type Data	River Miles	Categories								
				2A – Meet Stnds	2B- Exceed Screening Value	3A – No Data	3B- Insufficient Data	3C- Citizen Data Show Problems	3D- Citizen Data Show No Problems	4A- Impaired with TMDL	5A- Impaired TMDL Needed	5D- TMDL Needed for Benthic
Sycolin Creek A08												
.03	Rt. 653	DEQ								2.85		
1ASYC004.93	Rt. 621	DEQ								3.51		
1ASYC007.43	Rt. 797	DEQ								3.59		
1ASFS000.28	Rt. 15	DEQ								3.31		
Tuscarora Creek A08												
.37	Rt. 653	DEQ								3.55		
1ATUS-2-LWC		Citizen						(NA)				
Broad Run/Horsepen Run A09			(Loudoun)			(Loudoun)						
1ABRB002.15	Rt. 7	DEQ									2.88	
1AHPR003.87	Dulles Access Rd	DEQ		6.38								
1ASOR002.99	Rt. 616	DEQ		4.96								
1ABEM-13-LWC	Rt. 641	Citizen						0.45				
Sugarland Run A10			(Loudoun)			(Loudoun)						
1ASUR004.42	Rt. 7	DEQ									5.75	

Watershed Monitoring Station	Monitoring Location	Type Data	River Miles	Categories								
				2A – Meet Stnds	2B- Exceed Screening Value	3A – No Data	3B- Insufficient Data	3C- Citizen Data Show Problems	3D- Citizen Data Show No Problems	4A- Impaired with TMDL	5A- Impaired TMDL Needed	5D- TMDL Needed for Benthic
1ASUG-14-LWC		Citizen						3.5				

ATTACHMENT A.
OTHER THREATENED WATERS IN LOUDOUN COUNTY

1. Piney Run

Bacteriological Water Quality – LCSWCD has station #12 on Piney Run at Rt. 683 in the impaired segment, and station #13 at Rt. 685 upstream in the unimpaired segment. The data graph shows both stations have similar fecal coliform levels, and that both stations greatly exceed the water quality standard. There has been no DEQ monitoring in the upstream, unimpaired segment.

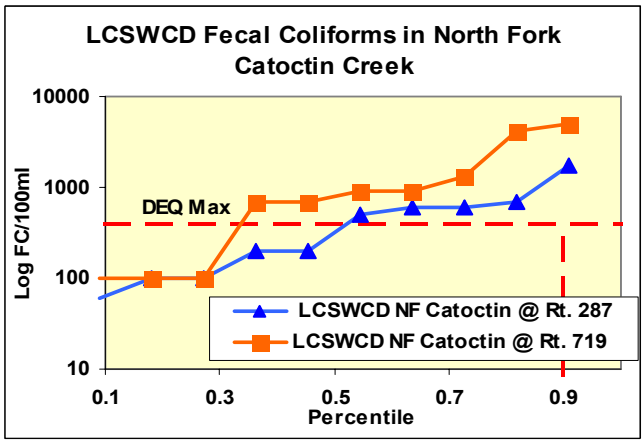


Conclusion – Local agency monitoring in Piney Run shows the water quality in the unimpaired segment upstream of the impairment has poor water quality similar to the downstream-impaired segment. The portion of Piney Run extending from the unnamed lake at stream mile 3.5 upstream to its headwaters should be considered threatened for fecal coliform.

2. North Fork Catoctin Creek

Bacteriological Water Quality – LCSWCD has two stations in the unimpaired portions of North Fork Catoctin Creek -- station #10 at Rt. 287 and station #11 at Rt. 719. The data graph shows that fecal coliform levels at both stations are similar and exceed the water quality standard.

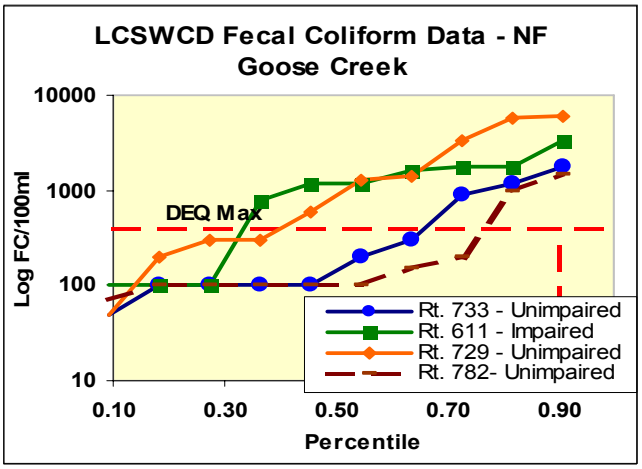
Conclusion – Local agency monitoring data at three different stations in the unimpaired, upstream portion of North Fork Catoctin



Creek show there is poor water quality similar to the downstream impaired segment. The upstream portion of the watershed extending from the impaired segment starting at stream mile 4.1 to its headwaters should be considered threatened for fecal coliform.

3. North Fork Goose Creek

Bacteriological Water Quality – LCSWCD has four stations in the North Fork Goose Creek Watershed – one in the impaired portion at Rt. 611 and three in unimpaired segments at Rt. 733, Rt. 729, and Rt.782. The graph of the fecal coliform data shows that the water quality at all stations exceeds the water quality standard. There has been no DEQ sampling in the upstream, unimpaired portion of the stream prior to 2003.

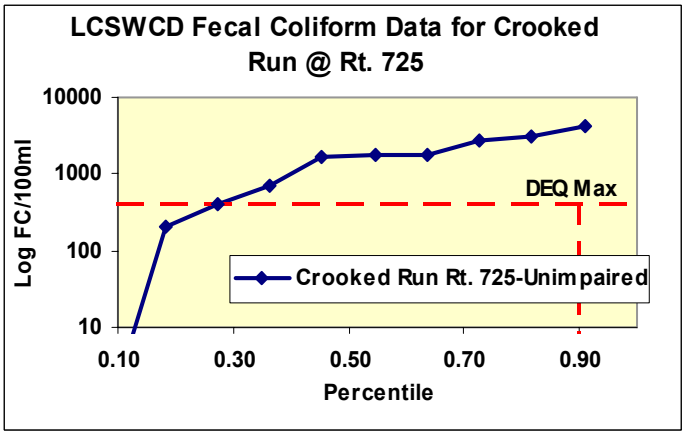


Conclusions -- Local agency fecal coliform monitoring at three stations in unimpaired segments downstream and upstream of the impaired segment in the North Fork Goose Creek show there is poor water quality similar to the impaired segment. North Fork Goose Creek from its mouth at Goose Creek upstream to the confluence of Crooked Run and the current impairment should be considered threatened for fecal coliform. Further, North Fork Goose Creek from its current impairment approximately 0.25 m upstream from the Rt. 611 bridge to Sleeter Lake should be considered threatened for fecal coliform.

4. Crooked Run

Bacteriological Water Quality – LCSWCD has monitoring station #6 at Rt. 725 in the Crooked Run Watershed. The graph of the fecal coliform data shows that the water quality at this station greatly exceeds the water quality standard. There has been no DEQ sampling in this stream.

Conclusion -- Local agency bacteriological monitoring at one station in this unimpaired stream



shows there is poor water quality. Crooked Run from its mouth to its headwaters should be considered threatened for fecal coliform. This is consistent with the finding of the TMDL study that water quality is poor throughout the Goose Creek watershed in Loudoun County.

5. Beaverdam Creek

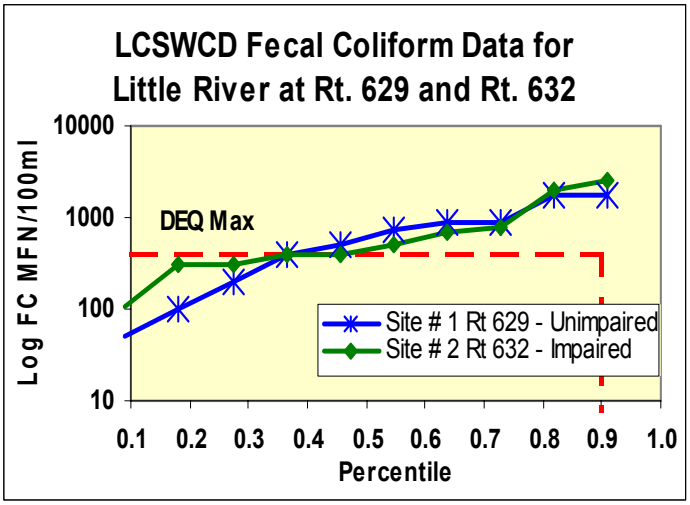
Aquatic Life – LCSWCD has a monitoring station #4 at Rt. 731 in the Beaverdam Creek watershed. The benthic macroinvertebrate community at this LCSWCD station is generally rated from fair to excellent as shown in the table. There has been no DEQ biomonitoring in this stream.

LCSWCD Aquatic Insect Data for Beaverdam Creek at Rt. 731 -- Site #4	
Date	**SOS Rating**
Aug-99	Fair
Nov-99	Fair
Jun-00	Excellent
Feb-01	Good

Conclusion -- Local agency biomonitoring data at one station in the unthreatened portion of the stream show that the quality of the benthic macroinvertebrate community is marginal. The Beaverdam Creek segment from its confluence with the North Fork Goose Creek upstream to the confluence with North Fork Beaverdam Creek should be considered threatened for aquatic life.

6. Little River

Bacteriological Water Quality – LCSWCD has monitoring station #2 at Rt. 632 in the impaired portion of Little River Watershed, and station #1 at Rt. 629 in the unimpaired upstream portion. The data graph shows that the bacteriological quality of the upstream portion of Little River is similar to the downstream, impaired portion.



Conclusion – Local agency bacteriological monitoring at one station upstream from the unimpaired portion of the stream shows there is poor water quality. These data indicate the waters of Little River from the confluence with Hungry Run upstream to the Loudoun County line should be considered threatened for fecal coliform. This is consistent with the finding of the TMDL study that water quality is poor throughout the Goose Creek watershed.

Response to Darrell Schwalm – Loudoun Watershed Watch:

Water quality monitoring data from the Loudoun County Soil and Water Conservation District (LCSWCD) had been submitted for inclusion in the assessment. Appendix D references an October 4, 2001, letter to Pat Mcllvaine and notes incomplete lab SOPs for bacteria analysis. While the data and information may be appropriate for certain uses, such as analyzing trends in fecal coliform concentrations or identifying areas needing additional monitoring, it was not accepted for inclusion in the 2004 water quality assessment.

DEQ recognizes that the integrated report is not easily interpreted and applied at the local level. Unfortunately, it is the somewhat due to the nature of translating technical information to a more understandable format. 2004 was the first year for publishing a combined 305(b)/303(d) integrated report. Changes are being made to the final Introduction and Executive Summary in an effort to make the findings of the 2004 assessment clearer to readers. We also are aware that the Category 4a impaired waters were not included in the draft report. The final publication will include this list of waters.

DEQ will continue to make changes to subsequent reports based on public comments we receive each time the report is published. The assessment report is increasingly becoming a tool for localities and stakeholders in the decision-making process. While the federal requirements for preparation and submittal of the 305(b) assessments and 303(d) impaired waters lists are the driving force for preparing these reports, DEQ would like to meet the needs of all clients, whenever practicable.

We could not however, incorporate some of your specific suggestions because the information simply cannot be extracted from the ADB database in an adequate format. Specifically, we recognize that the PDF format precludes manipulation into other electronic formats for manipulation, and that it is difficult to interpret information on waters that meet designated uses.

You also made several comments about the assessment methodology used and about specific water bodies. We respond to those individually below:

- The proactive delisting approach is only applied to watersheds where actions have been taken that result in the reduction of a particular pollutant. Specific measures, such as applied best management practices, would need to be included in the documentation to delist a stream segment.

- The DEQ water quality monitoring strategy aims to collect 12 samples over a two-year period for watershed stations. The DEQ will begin aligning the assessment data window with that of the water quality monitoring cycle to synchronize the monitoring and assessment cycles. Both the monitoring and assessment cycles will hereafter begin on July 1, and end on June 30, coinciding with Virginia's fiscal year. This change has already been implemented and will be reflected in the 2006 assessment. Additionally, the assessment cycle will be changed from a five-year to a six-year data window to match the rotating watershed cycle. This change will be reflected in the 2008 assessment.

- Regarding the noted conflicts in TMDL studies versus the assessment findings, DEQ recognizes that long-term records may show differing results from those of a shorter time horizon. However, the emphasis is placed on the more recent monitoring data used in the water quality assessment. Please note, however, the two stations referenced in your comments, 1AGOO002.38 and 1ACAX004.57, are both trend monitoring stations. DEQ will be performing trend analyses at these stations and will include the results of these analyses in the 2006 integrated report.

- Regarding the collection of monitoring data under varied climatic conditions, please note that DEQ monitoring data are collected randomly with respect to rainfall and stream flow conditions. Over any given two-year sampling period, data are likely to be collected during many stream flow conditions.

- The fecal coliform TMDL for Piney Run was completed using the Load Duration Approach and was approved by the U.S. EPA on July 6, 2004. This TMDL was developed for the downstream listed segment on Piney Run and will require load reductions for all area's upstream in the watershed. Development of the TMDL implementation plan will focus resources on specific area's activities requiring reductions.

- The fecal coliform TMDL for the North Fork Catoctin Creek watershed was approved by the U.S. EPA on May 31, 2002. A TMDL was developed for the entire Catoctin Creek watershed and addresses load reductions needed in all portions of the watershed.

- The fecal coliform TMDL for the Goose Creek watershed was approved by the U.S. EPA on May 1, 2003. This TMDL was developed for the entire Goose Creek watershed and includes the North Fork Goose Creek, Crooked Run, and Beaverdam Creek. This TMDL addresses load reductions for all area in the watershed. Development of the TMDL implementation plan will focus resources on specific area's activities requiring reductions. While the LCSWCD data were not approved for use in the water quality assessment, the data may be appropriate for identifying areas needing additional monitoring and/or specific BMP measures.

Commenter: Jeanie Grandstaff – Hopewell Regional Wastewater Treatment Facility

To: Darryl M. Glover,
Department of Environmental Quality
P.O. Box 10009
Richmond, Virginia 23240

From: Jeanie Grandstaff
Hopewell Regional Wastewater Treatment Facility
P.O. Box 969
Hopewell, VA 23860
Phone: 804-541-2214 x 208
Fax: 804-541-2441

Date: April 21, 2004

cc: Mark A. Haley, Director

Re: Hopewell Regional Wastewater Treatment Facility Comments on 2004 303(d) List Category 5 Waters

The Hopewell Regional Wastewater Treatment Facility (HRWTF)offers the following comments on the listing of the James River (TMDLID # - VAP-G03E-02) for the impairment caused by nutrients/eutrophication, biological indicators and estuarine benthics. We disagree that there is a basis for considering this section of the James nutrient enriched or that biological indicators of a healthy ecosystem are absent.

In 1999 HRWTF was the first to begin studying the restoration of submerged aquatic vegetation (SAV) in the tidal fresh James River. Although the restoration has had limited success, we have gained valuable information during this 5 year (1999-2004) study on the water ecology of this region and the effects of nitrogen, phosphorus and sediment on water quality and SAV restoration efforts. Conclusions drawn from the data collected and information evaluated during the study are as follows:

1. Nutrients loads to the tidal freshwater James River do not cause local dissolved oxygen impairments.

As stated in the 2000 James River tributary strategy, "there is no significant problem with low dissolved oxygen levels in the James estuary" (Virginia Secretary of Natural Resources *et. al.*, 2000). The same document acknowledges that the James River contributes "little, if any, to the dissolved oxygen deficit in the main Bay".

2. Nutrients do not impair benthic macroinvertebrates, zooplankton, or fish in the tidal freshwater James River.

Biological monitoring by DEQ/ODU (Old Dominion University) revealed that the benthic macroinvertebrate community in the James River has improved since 1985 and is the "healthiest in the Chesapeake Bay region" (Dauer, 1998). Zooplankton communities were considered to be "good" and "improving" and consisted of diatoms as the dominant taxa. Fish data collected by the Virginia Department of Game and Inland Fisheries (DGIF) in 1998-99 demonstrated high abundance and diversity metrics, indicating a high quality fish community (Malcolm Pirnie, 2001).

3. Nutrient reduction will result in very small improvements to water clarity in this segment due to the prevalence of inorganic turbidity and resuspension of sediments.

The tidal freshwater James River has little submerged aquatic vegetation (SAV), in part due to poor water clarity. Although algae are one source of turbidity, the prevalence of inorganic suspended solids will cause even large reductions in algal biomass to result in only minimal increases in water clarity. Evidence for this includes the following:

(a) Water quality data collected between 1989 and 2003 at Chesapeake Bay Program monitoring stations in the tidal freshwater James River (monitoring segment TF5) reveal that volatile suspended solids (VSS) accounts for an average of only about one-quarter of the total suspended solids. This value includes volatile suspended solids from non-algal sources (e.g., contributions from watershed; local wetlands).

(b) Monitoring in support of SAV transplantation studies by the Virginia Institute of Marine Science (VIMS) and the Hopewell Regional Wastewater Treatment Facility (HRWTF) revealed that clarity conditions did not significantly improve between 2001 and 2002, despite much lower nutrient loads and chlorophyll *a* concentrations observed during the drought of 2002 (Moore and others, 2003). The authors conclude that "turbidity in this region during the SAV growing season may not be related to freshwater inputs and…the reworking of existing sediments…may be very important."

(c) Water quality monitoring by HRWTF revealed marked tidal fluctuations in turbidity and significantly higher turbidity level at near-shore stations than mid-channel stations, consistent with tidal resuspension of sediment as a major cause of poor clarity (Malcolm Pirnie, 1999).

The minimal response of water clarity to nutrient load reductions can be demonstrated by the application of the Gallegos diagnostic tool (GDT), a spreadsheet-based tool developed by Dr. Charles Gallegos of the Smithsonian Environmental Research Center. The GDT is based on a statistical relation between the depth of SAV growth and the growing season medians of TSS and chlorophyll *a*. As demonstrated in Table 1, the GDT predicts that even a 50-percent reduction in chlorophyll *a* concentration would result in a gain of less than a tenth of a meter in the depth of SAV growth through most of the tidal freshwater segment. These results explain why Moore and others (2003) observed no significant change in light availability for SAV despite large changes in nutrient inputs/chlorophyll *a*.

TABLE 1
Depths of SAV Growth Predicted by the Gallegos Diagnostic Tool
[Median chlorophyll *a* and TSS calculated from growing season (Apr-Oct) data collected during 1989-2003; the GDT application includes calculation of the reduction in TSS associated with reduction in chlorophyll *a*]

Station	Median Chlorophyll *a* (mg/L)	Median TSS (mg/L)	Existing Depth of SAV Growth (m)	Depth of SAV Growth w/ 50% Reduction in Chlorophyll *a*	Increase in Depth of SAV growth (m)
TF5.2	3.1	6.5	2.08	2.18	0.10
TF5.3	4.6	13	1.26	1.32	0.05
TF5.5	34	32	0.53	0.60	0.07
TF5.6	13.7	25	0.71	0.76	0.05

4. Environmental factors other than water clarity limit the restoration of SAV in this segment.

The SAV restoration studies conducted by VIMS and HRWTF during 1999-2003 have provided a great deal of information on the environmental factors that challenge the restoration of SAV to the tidal freshwater James River. Despite the relatively high turbidity of this region, light is currently sufficient to grow SAV at shallow depths (~0.5-0.7 m) in most of the segment. Transplants of wild celery have survived and re-grown across growing seasons in the Hopewell region (Moore and others, 2003) as long as they are protected by fencing. However, unprotected SAV disappear quickly due to grazing by turtles, fish, etc., leading Moore and others (2000) to conclude that "survival in this region may be limited by grazing activities". It is not yet known if it is practical to restore beds large and dense enough to withstand such grazing.

High salinities have also adversely affected transplants in the tidal freshwater James River. For example, the drought of 2002 caused salinities to exceed 5 ppt in the lower part of the segment, causing die-backs at three of four transplant sites.

In summary, the existing scientific information indicates that the living resources of the tidal freshwater James River are generally healthy, with the exception of the lack of SAV. In light of the prevalence of inorganic turbidity, tidal resuspension, and other environmental impediments to SAV restoration (e.g., herbivory), it is questionable that nutrient load reductions will significantly affect the practicality of SAV restoration.

Response to Jeanie Grandstaff – Hopewell Regional Wastewater Facility:

There may be some confusion regarding the Aquatic Life Use impairments in the tidal James River, as described in fact sheet VAP-G03E-02. We would like to clarify that the tidal freshwater James River is not impaired for estuarine benthics and is only listed for Nutrients/Eutrophication Biological Indicators as required by the 1998 EPA overlisting. During the 2004 cycle, Virginia partnered with EPA and Maryland to develop a new methodology to assess the Benthic Index of Biological Integrity (B-IBI) data that has been collected by Dan Dauer of Old Dominion University and Versar, Inc. of Maryland. The results of the assessment showed that the tidal freshwater James River had acceptable B-IBI scores; however, the oligohaline portion of the river, which extends approximately from Claremont in Surry County to the Isle of Wight county line, was considered impaired for estuarine benthics. This impairment is possibly attributed to natural sediment conditions in this area (verbal communication, Dauer, 2003).

The tidal freshwater portion of the James River, which extends from the fall line at Richmond to the oligohaline boundary near Claremont, is considered impaired due to the 1998 overlisting by the EPA. EPA added the tidal portions of the James River to Virginia's 1998 303(d) list and attributed the impairment to "Nutrients." As you stated, the tidal freshwater James River is currently meeting Virginia's dissolved oxygen water quality standards and throughout the tidal James River there is an improving trend in dissolved oxygen (draft 2004 James River Tributary Strategy). However, the segment is not meeting the proposed Chesapeake Bay Program (CBP) water quality standards for chlorophyll *a* or water clarity that are currently undergoing the regulatory adoption process in Virginia. Until these standards are adopted, DEQ has not added water clarity or chlorophyll *a* as impairments and has listed the river segment as impaired by nutrients as mandated by EPA in 1998. Once these standards are adopted and assessed, it is likely that the wording of the impairment will change and that excessive sediment will be added to nutrient overenrichment as an impairing cause.

Commenter: Kay Slaughter – Southern Environmental Law Center

April 22, 2004

Daryl M. Glover
Water Quality Monitoring and Assessment Manager
Department of Environmental Quality
P.O. Box 10009
Richmond VA 23240

Re: 305(b) / 303(d) Water Quality Integrated Report

Dear Mr. Glover:

Thank you for the opportunity to comment on the draft 305(b) / 303(d) Water Quality Integrated Report. We are very concerned that the report is barely comprehensible to water quality professionals, much less the general public. Instead, the Report obfuscates the true state of Virginia's waters.

While we understand that EPA requirements drive the format and content, DEQ has a responsibility to the public to include an executive summary that explains the highlights in lay language for not only the general public but also decisionmakers who want a useful assessment of water quality in the Commonwealth.

Moreover, because of the way the waters are categorized and compared, both the report and the press release announcing its publication present a rosier picture of water quality than justified by the underlying data. In the past, DEQ described the state of its water quality based on the sample of those waters that were actually monitored or evaluated. Thus, when the overall assessment found that approximately 44% of Virginia's waters were impaired, it was understood that this conclusion was based on the sample.

In the recent report, the actual impaired miles are compared to all the miles of waters (rather than those actually monitored/assessed). The resulting ratio between the numerator (monitored/impaired) and denominator (all waters) is much greater, making it appear that fewer waters are polluted. This occurs even though as DEQ admits that 358 waters were added to the impaired list.

The executive summary should be no more than one or two pages and answer briefly the questions of the percentage of assessed waters meeting water quality standards and the percentage expected to fall below WQS, and how this compares to the previous water quality report. Such an assessment should give a snapshot of the state of the rivers, lakes, and estuaries – separately and in combination. An additional sentence could describe the inadequacy of the data, i.e., the numbers and percentages of miles on which there is insufficient data, as explained in the report.

- As was the case in the past, DEQ should present the percentage of impaired versus non-impaired waters based on water quality monitoring and assessment. For example, EPA requires that the report list as impaired only those waters for which a TMDL has not been prepared. However, even after a TMDL is developed, but prior to implementation, the water is still impaired (unless other action has been taken to reduce or eliminate the impairment). The average citizen wants to know the number of miles of impaired waters, regardless of whether or not a plan has been prepared. The full report will still include charts that divide the water into the EPA categories (e.g., 4A and 4B), but DEQ has an additional responsibility to interpret these facts.

- The current report assesses 26.2% of the state's rivers and streams (as compared to 35.2% in 1998). It would be helpful to know why this number of assessed river miles decreased. The report implies without saying that the remaining stream miles were evaluated as having insufficient data to determine if designated uses were met. (see 1.1-4)

- The current executive summary goes into too much detail about the types of data used in assessment, the assessment method and the process for approving data and reviews. This information would better be discussed in a separate introductory section.

- Similarly, water quality monitoring programs would be better discussed in a separate introductory section, and, as in the past, described in a brief paragraph in the summary. It is good to see that DEQ is seeking additional ways of ascertaining long term health of the rivers through such monitoring protocols as the probalistic method. However, even as it tries to improve the methodologies for assessing data, DEQ should interpret existing data to give the public and decisionmakers understanding of the current status of Virginia's waters.

- The executive summary should summarize information compiled from the charts of EPA-designated categories so that citizens do not have to wade through the assessment charts using various EPA categories, and do the math to figure out how many water bodies are impaired.

- The Report also should have several maps locating monitoring stations, monitored and assessed waters and impaired waters. In addition, there need to be common sense descriptions of the locations of the impaired waterways (e.g., "approximately 1-2/mile downstream of the U.S. 29 bridge," etc.).

- In the current report, information on lakes and reservoirs is shocking. According to the assessment, 20.4% of lake waters are impaired but do not need a TMDL, and 54.1% are impaired and need a TMDL. Similarly for estuarine waters, a whopping 70.8% are impaired and need a TMDL. The leading cause, according to the report is violation of dissolved oxygen standard. Especially in the executive summary, DEQ should identify that the largest portion of this as the main stem of the Chesapeake Bay.

- In the 1998 report, hot spots and fish consumption advisories were identified. I do not see this information in the latest report. Information relating to the hotspots and fish consumption should be summarized in the executive summary.

At a time when DEQ is seeking to reach out to the public, the executive summary of the Water Quality Report should be a simple and straightforward interpretation of technical data for the general public and decisionmakers, such as the State Water Control Board, the current document falls far short of this goal. I hope revisions will correct this.

Sincerely,

Katherine E. Slaughter
Senior Attorney

KES/cs
cc: State Water Control Board
Robert G. Burnley
Kathy Frahm

Response to Kay Slaughter – Southern Environmental Law Center:

In response to comments from several sources both the Executive Summary and Introduction have been substantially re-written in order to clarify the information in the report. New tables and a new map have been added to the Executive Summary that presents a quantitative summary of both the current and recent historical findings of assessments since the mid-1990s. In order to make the Executive Summary easier to read the detailed tables on subcategories were moved to Chapter 3.1 of the 2004 report.

We also explain in the revised Executive Summary why using the "impaired percentage of monitored waters" is not a meaningful way to compare one assessment to the next. Impaired waters will always increase from one assessment to the next because both present and previously discovered impairments are added together. Waters found impaired in one assessment, are included in all subsequent assessments until they are delisted. This is done even if some of these waters are not monitored again for a period of time. For this reason it is more accurate to look at the amount of increased impaired area and the table of newly listed impairments to get a sense of what has changed since the previous assessment.

Similar to 2002, detailed information on the location of individual impaired waters is found in the fact sheets (Appendix A) in 2004. Also, reference to fish consumption advisories is included in the Executive Summary and reference is made to more detailed information about advisories in Chapter 6.5.

Commenter: Evelyn Mahieu – Private Citizen

You are welcome.

Evelyn

-----Original Message-----
From: Glover,Darryl [mailto:dmglover@deq.state.va.us]
Sent: Thursday, April 22, 2004 12:56 PM
To: Evelyn Mahieu
Cc: Augustine,Harry; Owens,Roland; Pollock,Alan
Subject: RE: Water Quality Assessment Integrated Report 305 (b) and 303(b)

Thank you very much. Not many take time to send supportive comments like yours.

Darryl M. Glover
Water Quality Monitoring and Assessment Manager
Department of Environmental Quality
Office of Water Quality Programs
PO Box 10009, Richmond, VA 23240
629 East Main Street Richmond, VA 23219
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> -----Original Message-----
> From: Evelyn Mahieu [SMTP:Evelyn.Mahieu@uosa.org]
> Sent: Thursday, April 22, 2004 12:46 PM
> To: Glover,Darryl
> Subject: Water Quality Assessment Integrated Report 305 (b) and 303(b)
>
> This is not an official comment from my organization, but a personal
> assessment of the report. I think that both DEQ and DCR did an excellent
> job in the 2004 Integrated report. This comprehensive document is a source of very important information on waters of the State. I wish to commend all those involved in putting together the report.
>
> Sincerely,
>
> Evelyn
>
>
>

Commenter: Terry B. Councell – Private Citizen

In reviewing the Draft 2004 305(b)/303(d) Water Quality Assessment Integrated Report I would like to make the following comments as a resident of Culpeper County and the State of Virginia for 17 years. I have worked with the USGS as a hydrologist for 12 years and recently with the USDA for 2 years. In my travels throughout VA for work and personal, I frequently see cattle allowed in the streams and lakes of Virginia. I understand that this is a very effective means of providing water for cattle, it is my opinion that this is also a major source of the coliforms indicator bacteria, fecal coliforms, E. coli, and possible pathogens. I am aware of many studies being conducted (some in the state of VA) to positively identify sources of these organisms in the local watersheds. The methodologies and techniques for source tracking is still in its infancy and none to my knowledge provide scientifically definitive data. As the majority of the Virginia streams and lakes which have impaired quality, are contaminated with these organisms, rather than waiting for a technique to become available, I think it prudent to suggest that the VA DEQ mandate restrictions keeping cattle out of our lakes and streams. I would further suggest that buffer zones be established to filter out these organisms so that they infrequently become a problem. I realize this would be a difficult mandate to enforce but based on the data presented by your report, I believe it to be necessary.

Thank you for your consideration and time.

I would be glad to be of service to any committee addressing this issue and offer my expertise.

Terry B. Councell

Response to Terry B. Council – Private Citizen:

The suggestions you have made do not fall under the authority of the Virginia Department of Environmental Quality to require.

Commenter: John Carlock – Hampton Roads Planning District Commission

Darryl, et. al.,

Roger and Steve, Thanks for your contributions to the April 1, 2004 Joint Environmental Committee meeting. Thought the presentation was informative and well-received.

Darryl, Thanks for your response and recommendations on the TRO staff presentation. Steve and Roger did a great job explaining the process and the resulting impaired waters in the region. Committee had a number of questions, which the TRO folks addressed. Based on the Committee discussion, I suspect that the impaired waters list and associated TMDLs will become a regular topic of discussion and consideration.

The general consensus of the Committee was that a public meeting should have been held in eastern Virginia/Hampton Roads given the number of list-associated issues and the long range implications of the list to the region. We understand that the Register notice requirements and other resource constraints make that difficult. However...

The Committees tasked us, along with a couple of "volunteer" groups to develop some type of educational program on the list and TMDLs. We are still trying to figure out the best way to handle that. At some point before the end of the Fiscal Year, the Committee recommended that the HPRDC staff provide our Commission with a briefing on this issue.

I appreciate your suggestion that we advertise and host a public meeting (and we may), I am not sure that would be an appropriate substitute for a state-sponsored public meeting. We can discuss whether a jointly-sponsored event would be doable. Central to the reasonableness of this is the question of whether such a meeting would constitute an official part of the public comment process.

I would appreciate your thoughts on this might be handled.

John

John M. Carlock, AICP
Deputy Executive Director, Physical Planning
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jcarlock@hrpdc.org
www.hrpdc.org

Response to John Carlock – Hampton Roads Planning District Commission:

There was not adequate time during the public comment period for the draft report to adequately notice an additional public information meeting on the 2004 report however, when the 2006 assessment is released, DEQ intends to hold public information meetings in every DEQ region.

Commenter: Vernon R. Land – City of Norfolk Utilities

April 22, 2004

Darryl M. Glover
Water Quality Monitoring and Assessment Manager
Virginia Department of Environmental Quality
P.O. Box 10009
Richmond, Virginia 23240

RE: March 2004 Draft 305(b)/303(d) Water Quality Assessment Integrated Report – Comments by City of Norfolk, Virginia

Dear Mr. Glover:

The City of Norfolk Department of Utilities has reviewed the Draft 305(b)/303(d) Water Quality Assessment Integrated Report of March 2004 ("Draft Report") and offers the following comments:

1. **Table 3.3-1, Size of All Waterbodies Owned by the City**. In Table 3.3-1, the value given for the size of all waterbodies owned by the City of Norfolk is incorrect. The size of all waterbodies owned by the City of Norfolk is as follows:

Reservoir	Area of Lake at Spillway Elevation (Acres)
Western Reservoirs	
Lake Prince	946
Burnt Mills	711
Western Branch Reservoir	1,265
In-town Reservoirs	
Lake Smith	193
Little Creek Reservoir	193
Lake Whitehurst	480
Lake Wright	49
Lake Lawson	77

2. **Listings of Lake Smith and Little Creek Reservoir as Impaired Waters**. The Draft Report lists two water bodies that are owned by the City of Norfolk as impaired: Lake Smith (Upper) and Little Creek Reservoir. However, it appears that incomplete and/or inaccurate data and information about these waterbodies may have contributed to these listings.
One other listing for Lake Smith (Lower) needs minor corrections. These comments are explained further as follows:

Lake Smith (Upper), Segment ID VAT-C08L-02. The City has been collecting monthly water quality monitoring data for its reservoirs since 1979. For the 1998-2002 period relied upon by DEQ in the Draft Report, DEQ refers to 27 water quality samples, whereas Norfolk has a total of 178 samples analyzed. The City has been monitoring these reservoirs on a monthly basis beginning in 1979 as part of the Rural Clean Water Program. The Utilities Water Quality Laboratory is certified by the State of Virginia, Division of Consolidated Laboratory Services. The lab is responsible for monitoring both the City's raw and finished water and uses analytical methodologies contained in *Standard Methods for the Examination of Water and Wastewater,* 19th & 20th editions. Extensive quality control procedures are followed for all test methods in use. See Table 1 attached to this letter summarizing the City's sampling results. The more extensive City sampling data covering this same period does not support an impairment listing for low dissolved oxygen. Our water column profile data demonstrates that only 10% of all samples fall below the impairment level, which is below the threshold of 10.5%.

The Draft Report notes that the cause of the impairment is "unknown." A review of the characteristics of Lake Smith reveals the cause, however. Lake Smith was constructed as a shallow, impounded water supply reservoir. The average depth is five feet and

when drawn down by summer use, this depth is halved. Typical of shallow waterbodies in the southeast, there is little opportunity for oxygen to be introduced into the water column during the warm summer months. Its dissolved oxygen levels are naturally low for this reason, and so it should not be expected to meet the dissolved oxygen water quality standards for Class III waters.

We recommend that Lake Smith be evaluated pursuant to 9 VAC 25-260-55 as Class VII waters to establish dissolved oxygen criteria that better reflect its inherent and natural characteristics. Further, or at least until the process under 9 VAC 25-260-55 can be completed, Lake Smith (Upper), Segment ID VAT-C08L-02, should be, in order of recommendation: (i) removed from the impaired waters list altogether due to the abundance of data showing that the 10.5% threshold has not been met; (ii) based on contrary data collected by the City, reclassified as an EPA Category 3 water (Va. subcategory 3D or 3C) (Indeterminate – waters needing additional information); or (iii) reclassified as EPA Category 4C (water impaired or threatened due to natural conditions). We would be glad to discuss our water quality monitoring data and reservoir information with you in this regard.

Lake Smith (Lower). This lake segment is incorrectly listed on page 3.3-95 as Category 5A. It should be listed as Category 1.

Little Creek Reservoir, Segment ID VAT-C08L-05. This reservoir segment has been classified as impaired due to observed pH levels. The observed pH levels are largely the result of natural algal photosynthesis occurring within this very productive reservoir, which tends to raise the pH. For this reason, Little Creek Reservoir, Segment ID VAT-C08L-05, should be reclassified as EPA Category 4C (water impaired or threatened due to natural conditions).

In addition, this segment is incorrectly shown on p. 3.3a-35 and Appendix A-1029 to be located in Norfolk. It is located in the City of Virginia Beach. In addition, the location information given incorrectly places this segment within the boundaries of Lake Whitehurst. It is also incorrectly referred to as "Lake Whitehurst" in the mapping section of the DEQ website. It should be referred to as Little Creek Reservoir.

Thank you for considering our comments on the Draft Report. We greatly appreciate the Department's efforts to protect our Commonwealth's waters for the benefit of its residents and the environment.

Sincerely,

Vernon R. Land
Water Quality Manager

cc: Director of Utilities
Asst. Director of Utilities
File 12.7

Attachment: Table 1

Table 1						
Lake Smith Dissolved Oxygen 1998-2004				Little Creek Reservoir pH 1998-2004		
Date	Depth (meters)	Dissolved Oxygen (mg/L)		Date	Depth (meters)	pH
13-Jan-98	0	8.85		13-Jan-98	0	8.2
13-Jan-98	1	8.37		13-Jan-98	1	8.19
13-Jan-98	2	7.99		13-Jan-98	1.7	8.17
16-Mar-98	0.5	12.13		16-Mar-98	0.2	7.57
16-Mar-98	1.1	12.18		16-Mar-98	1	7.61
16-Mar-98	2	12.98		16-Mar-98	2	7.58
21-Apr-98	0.6	9.60		16-Mar-98	2.4	7.44
21-Apr-98	1	9.94		21-Apr-98	0.3	7.53
21-Apr-98	1.9	6.48		21-Apr-98	1	7.53
19-May-98	0.4	11.95		21-Apr-98	2	7.23
19-May-98	0.9	12.71		19-May-98	0.7	9.73
19-May-98	2	4.10		19-May-98	1.3	9.82
16-Jun-98	0	9.43		19-May-98	2	9.28
16-Jun-98	1	8.19		16-Jun-98	0.5	7.82
16-Jun-98	1.7	1.47		16-Jun-98	1.7	7.83
21-Jul-98	0.1	9.75		16-Jun-98	1.8	7.4
21-Jul-98	1	7.20		21-Jul-98	0	8.79
21-Jul-98	1.7	0.27		21-Jul-98	1	8.53
17-Aug-98	0.2	7.82		21-Jul-98	1.8	6.92
17-Aug-98	1	7.63		17-Aug-98	0	9.17
17-Aug-98	2	0.44		17-Aug-98	1	9
16-Sep-98	0.1	11.50		17-Aug-98	2.2	8.76
16-Sep-98	1.1	10.35		16-Sep-98	0.7	9.22
16-Sep-98	2.1	1.34		16-Sep-98	1.5	9.13
20-Oct-98	0	7.71		16-Sep-98	2.3	8.75
20-Oct-98	1	7.52		16-Sep-98	2.3	7.18
20-Oct-98	1.9	3.84		20-Oct-98	0.5	7.53
17-Nov-98	0.1	11.29		20-Oct-98	1	8.25
17-Nov-98	1	11.15		20-Oct-98	1.2	8.16
17-Nov-98	1.7	10.46		17-Nov-98	0.6	8.33
15-Dec-98	0.9	9.81		17-Nov-98	1	8.41
15-Dec-98	1	9.74		17-Nov-98	2	8.23
15-Dec-98	1.9	6.07		15-Dec-98	0	7.68
19-Jan-99	0	11.20		15-Dec-98	1	7.69
19-Jan-99	0.9	11.10		15-Dec-98	2	6.74
19-Jan-99	2	10.80		19-Jan-99	0	7.5
16-Feb-99	0.4	10.60		19-Jan-99	1.6	7.5
16-Feb-99	1.5	10.60		19-Jan-99	2.2	7.5
16-Feb-99	1.7	9.40		16-Feb-99	0	7.3
16-Mar-99	0	11.70		16-Feb-99	1	7.3
16-Mar-99	2	11.10		16-Feb-99	2	7.3
16-Mar-99	2	11.60		16-Mar-99	0	7.5
20-Apr-99	0	9.40		16-Mar-99	1.1	7.5
20-Apr-99	1	9.10		16-Mar-99	2	7.5
20-Apr-99	2	3.90		20-Apr-99	0	7.5
18-May-99	0	9.80		20-Apr-99	1	7.4
18-May-99	1	9.80		20-Apr-99	2.1	7.4
18-May-99	2	6.90		18-May-99	0	7.4
14-Jun-99	0	9.10		18-May-99	1	7.4

Table 1						
Lake Smith Dissolved Oxygen 1998-2004				Little Creek Reservoir pH 1998-2004		
Date	Depth (meters)	Dissolved Oxygen (mg/L)		Date	Depth (meters)	pH
14-Jun-99	1	7.90		18-May-99	2	7.4
14-Jun-99	2	3.00		14-Jun-99	0.1	8.3
20-Jul-99	0	12.20		14-Jun-99	1.1	8.2
20-Jul-99	1	11.10		14-Jun-99	2	7.6
20-Jul-99	2.1	0.20		20-Jul-99	0.4	9
16-Aug-99	0.2	10.98		20-Jul-99	1	8.8
16-Aug-99	1	8.33		20-Jul-99	2	7.5
16-Aug-99	2	0.37		16-Aug-99	0.1	8.45
20-Sep-99	0.7	8.40		16-Aug-99	1	7.98
20-Sep-99	1.9	6.80		16-Aug-99	2.5	7.54
20-Sep-99	2.1	5.10		20-Sep-99	0.1	8.6
19-Oct-99	0	8.60		20-Sep-99	1.5	7.8
19-Oct-99	1	8.70		20-Sep-99	2.6	7.5
19-Oct-99	2	8.10		19-Oct-99	0	7.2
15-Nov-99	0	10.30		19-Oct-99	1.1	7.2
15-Nov-99	1	10.26		19-Oct-99	2	7.2
15-Nov-99	1.6	9.54		15-Nov-99	0	7.4
8-Dec-99	0	7.57		15-Nov-99	1	7.42
8-Dec-99	1	7.21		15-Nov-99	2	7.46
8-Dec-99	1.6	3.48		8-Dec-99	0	7.56
18-Jan-00	0	10.55		8-Dec-99	1	7.54
18-Jan-00	1	10.38		8-Dec-99	1.9	7.56
18-Jan-00	1.6	10.31		18-Jan-00	0	7.28
14-Feb-00	0	12.90		18-Jan-00	1	7.31
14-Feb-00	1.1	12.80		18-Jan-00	2	7.33
14-Feb-00	1.8	10.40		14-Feb-00	0	8.6
7-Mar-00	0.1	10.10		14-Feb-00	1	8.6
7-Mar-00	1	10.00		14-Feb-00	2	8.6
7-Mar-00	1.8	5.00		7-Mar-00	0.1	7.1
19-Apr-00	0	10.00		7-Mar-00	1.1	7.3
19-Apr-00	1	9.80		7-Mar-00	2	7.2
19-Apr-00	1.7	6.80		19-Apr-00	0	7.1
16-May-00	0.2	6.20		19-Apr-00	1	7.1
16-May-00	1	5.50		19-Apr-00	2	6.8
16-May-00	1.8	4.80		16-May-00	0.2	7.7
19-Jun-00	0.1	7.93		16-May-00	0.2	7.5
19-Jun-00	1	6.77		16-May-00	1	7.6
19-Jun-00	1.7	3.21		16-May-00	1	7.3
18-Jul-00	0.1	10.34		16-May-00	1.8	7.1
18-Jul-00	1	5.19		16-May-00	2	7.3
18-Jul-00	1.7	0.91		19-Jun-00	0	8.1
22-Aug-00	0.2	8.60		19-Jun-00	1	8
22-Aug-00	1	7.30		19-Jun-00	2.1	7.41
22-Aug-00	2	1.80		18-Jul-00	0	9.45
19-Sep-00	0	6.30		18-Jul-00	1.1	9.07
19-Sep-00	1	6.00		18-Jul-00	2	7.78
19-Sep-00	1.7	5.90		22-Aug-00	0.2	9.2
17-Oct-00	0.1	9.80		22-Aug-00	1	8.9
17-Oct-00	1	9.80		22-Aug-00	2	8.3
17-Oct-00	1.7	8.80		19-Sep-00	0	7.8

Table 1						
Lake Smith Dissolved Oxygen 1998-2004				Little Creek Reservoir pH 1998-2004		
Date	Depth (meters)	Dissolved Oxygen (mg/L)		Date	Depth (meters)	pH
14-Nov-00	0.1	8.10		19-Sep-00	1.1	7.8
14-Nov-00	1.1	8.00		19-Sep-00	2.1	7.8
14-Nov-00	1.6	5.50		17-Oct-00	0.1	8.8
5-Dec-00	0.1	10.20		17-Oct-00	1	8.7
5-Dec-00	1	10.20		17-Oct-00	1.9	7.6
5-Dec-00	1.8	10.20		14-Nov-00	0	7.6
16-Jan-01	0.1	9.30		14-Nov-00	1	7.6
16-Jan-01	1	9.60		14-Nov-00	2	7.5
16-Jan-01	1.9	9.50		5-Dec-00	0.1	7.3
20-Feb-01	0	11.10		5-Dec-00	1	7.3
20-Feb-01	1	11.00		5-Dec-00	2.1	7.2
20-Feb-01	1.9	10.90		16-Jan-01	0.1	7.8
20-Mar-01	0.4	7.60		16-Jan-01	1	7.8
20-Mar-01	1.1	7.60		16-Jan-01	1.7	7.8
20-Mar-01	2.1	6.50		20-Feb-01	0	7.2
17-Apr-01	0.1	8.10		20-Feb-01	1	7.2
17-Apr-01	1.1	7.90		20-Feb-01	1.9	7.2
17-Apr-01	2.3	3.00		20-Mar-01	0.3	7.4
15-May-01	0	8.60		20-Mar-01	0.3	7.4
15-May-01	0.9	8.30		20-Mar-01	1	7.4
15-May-01	1.6	7.70		20-Mar-01	2.1	7.4
19-Jun-01	0.1	11.10		17-Apr-01	0.1	7.4
19-Jun-01	0.1	11.40		17-Apr-01	1	7.4
19-Jun-01	1	9.00		17-Apr-01	2	7.4
19-Jun-01	2	1.20		15-May-01	0	8.1
17-Jul-01	0	14.50		15-May-01	1	8.1
17-Jul-01	1	12.30		15-May-01	1.8	7.6
17-Jul-01	1.7	8.30		19-Jun-01	0.1	9.1
17-Jul-01	2.1	0.90		19-Jun-01	1	9
14-Aug-01	0	7.10		19-Jun-01	2	7.9
14-Aug-01	1	6.00		17-Jul-01	0.1	9.4
14-Aug-01	1.5	2.80		17-Jul-01	1	9.3
18-Sep-01	0.1	10.90		17-Jul-01	2	9
18-Sep-01	1	7.60		14-Aug-01	0	9.2
18-Sep-01	1.6	6.30		14-Aug-01	1	9.1
16-Oct-01	0.1	7.80		14-Aug-01	2.1	8.7
16-Oct-01	1	7.80		18-Sep-01	0.1	9.8
16-Oct-01	1.6	7.80		18-Sep-01	1.1	9.2
13-Nov-01	0.1	10.00		18-Sep-01	1.9	9.3
13-Nov-01	1	9.90		16-Oct-01	0.1	9.2
13-Nov-01	1.5	9.60		16-Oct-01	1	9.2
11-Dec-01	0	7.00		16-Oct-01	2	7.3
11-Dec-01	1	6.90		13-Nov-01	0.2	8.6
11-Dec-01	1.6	5.60		13-Nov-01	1	8.6
12-Dec-01	0.4	8.70		13-Nov-01	2	8.4
15-Jan-02	0	9.70		12-Dec-01	0.1	7.6
15-Jan-02	1	9.30		12-Dec-01	1	7.5
15-Jan-02	1.7	8.70		12-Dec-01	1.4	7.4
15-Jan-02	1.7	8.70		15-Jan-02	0.1	8
12-Feb-02	0.1	10.00		15-Jan-02	1	8

Table 1						
Lake Smith Dissolved Oxygen 1998-2004				Little Creek Reservoir pH 1998-2004		
Date	Depth (meters)	Dissolved Oxygen (mg/L)		Date	Depth (meters)	pH
12-Feb-02	1	9.90		15-Jan-02	2	8
12-Feb-02	1.7	9.50		12-Feb-02	0.1	7.1
11-Mar-02	0	10.70		12-Feb-02	1	7.1
11-Mar-02	1	10.10		12-Feb-02	2.1	6.8
11-Mar-02	1.7	8.30		11-Mar-02	0	7.9
16-Apr-02	0	9.30		11-Mar-02	1	7.7
16-Apr-02	1.1	9.90		11-Mar-02	2	7.5
16-Apr-02	1.8	1.10		16-Apr-02	0.1	8.8
14-May-02	0	7.50		16-Apr-02	1	8.5
14-May-02	1	7.10		16-Apr-02	2	7.5
14-May-02	1.7	5.40		14-May-02	0	8.5
17-Jun-02	0	10.40		14-May-02	1	8.2
17-Jun-02	1	7.40		14-May-02	1.9	8.2
17-Jun-02	1.6	6.60		17-Jun-02	0	8.6
16-Jul-02	0.1	9.60		17-Jun-02	1	8.6
16-Jul-02	1	7.20		17-Jun-02	2.1	7.9
13-Aug-02	0.1	8.80		16-Jul-02	0	9.1
13-Aug-02	1	8.40		16-Jul-02	1	9
10-Sep-02	0	8.40		16-Jul-02	2	8.2
10-Sep-02	1	8.10		13-Aug-02	0.1	9.3
15-Oct-02	0.1	10.40		13-Aug-02	1	9.3
15-Oct-02	1	8.90		13-Aug-02	1.8	9.2
15-Oct-02	2	8.80		10-Sep-02	0.1	8.7
19-Nov-02	0.1	10.70		10-Sep-02	1	8.7
19-Nov-02	1	10.40		10-Sep-02	2	8.2
19-Nov-02	2.1	7.70		15-Oct-02	0.1	8.6
17-Dec-02	0	13.10		15-Oct-02	0.9	8.7
17-Dec-02	1	13.00		15-Oct-02	2	8.7
17-Dec-02	2.1	12.50		19-Nov-02	0.2	7.1
				19-Nov-02	1	7.2
				19-Nov-02	2.2	7.1
				17-Dec-02	0	7.3
				17-Dec-02	1.1	7.4
				17-Dec-02	1.1	7.4
				17-Dec-02	1.9	7.4

Response to Vernon R. Land – City of Norfolk:

1. We appreciate you providing the size of the reservoirs in the City of Norfolk. This information has been used to update our database and will be reflected in the final Integrated Report.

2. As regards Lake Smith (Upper), Segment ID VAT-C08L-02, this was an erroneous listing in the draft and has been corrected in the final Integrated Report to Lake Smith (Lower) Segment ID VAT-C08L-02.

   As was agreed during the discussion conducted June 24th between your office and the DEQ - Tidewater Regional Office staff, the lake monitoring data which has been collected by the City of Norfolk will be solicited for the upcoming 2006 Assessment Report. If the data provides sufficient evidence of water quality improvements, an appropriate request for delisting will be processed per standard procedures.

   The Lake Smith (Lower), Segment ID VAT-C08L-02 has been corrected in the final Integrated Report as noted above.

   As regards Little Creek Reservoir, Segment ID VAT-C08L-05, current information concerning the potential impacts from surrounding residences (as evidenced by high Trophic State Indexes for water clarity and total phosphorus) provides sufficient potential anthropogenic impacts to preclude identifying the impairment cause as due to natural conditions. We agree with your observation that the location of the segment was incorrect in the draft, this has been corrected for the final Integrated Report.

Commenter: Jacqueline S. Stewart – Director of Planning and Information Systems
Richmond Regional Planning District Commission

April 22, 2004

Mr. Darryl M. Glover
Water Quality Monitoring and Assessment Manager
Virginia Department of Environmental Quality
P.O. Box 10009
Richmond, Virginia 23240

Dear Darryl:
At a meeting of the Richmond Regional Planning District Commission Environmental Technical Advisory Committee (ETAC) the committee considered and drafted comments concerning the draft Virginia Water Quality Assessment 305(b)/303(d) Integrated Report. The Richmond Regional ETAC is made up of representatives of the Town of Ashland, City of Richmond and the Counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent and Powhatan that are responsible for administering various local, state, and federal environmental programs within their respective communities. Attached to this letter are specific comments of the committee on the Water Quality Report.
The Richmond Regional Planning District Commission staff and members of the ETAC appreciate the opportunity to provide DEQ with these comments for consideration. We look forward to the opportunity to work with DEQ staff on this and other state environmental programs. If you have any questions or need further information concerning any of these comments please to not hesitate to contact me.

Sincerely,

Jacqueline S. Stewart, AICP
Director of Planning and Information Systems

Attachment

cc: Mr. Paul E Fisher, Executive Director
Ms. Christine H. Fix, Senior Planner

Richmond Regional Environmental Technical Advisory Committee comments concerning the Virginia Water Quality Assessment, 305(b)/303(d) Integrated Report April 14, 2003

Questions on Water Quality Integrated Report

- Is there monitoring data available for both listed and non-listed waters? Is that data publicly and easily available?
- This report is based on data acquired over 5 years. Typically the 303(d) report has been done on two year cycles will the two-year cycle be reinstated?
- For the TMDL process, is there a DEQ liaison assigned to work with each local government affected? Could one locality potentially have multiple liaisons for each impaired water that falls within its jurisdiction?
- What are the budget implications for the TMDL process, especially implementation?
- If the Chesapeake Bay is downgraded by the EPA as a nationally impaired water, will more funds become available to assist with restoration efforts?

Comments on Water Quality Integrated Report

- **Public Education:** Given the increasing amount of impaired waters and because much of the impairments seem to be man-made, the Commonwealth should invest more in public education of pollution control issues. More effort needs to be made to get region-specific pollution prevention messages out to citizens. DEQ should consider providing funding to local governments, planning district commissions and local soil and water conservation districts for education targeted to pollution prevention. Virginia Naturally focuses on educating school age populations and teaching to the Virginia Standards of Learning (SOLs). However, these students are a young audience for making real-time results because they will not be land/home owners for ten to twenty years. Education of the general population needs to begin ***now***. Virginia Naturally should consider partnering with Soil and Water Conservation Districts (SWCDs) that target specific land owner/manager populations within communities.

- **Citizen Monitoring:** DEQ should further develop the usefulness of the Category 3 data through the office of Volunteer Coordinator for the citizen monitoring. In addition to providing first time training for citizen monitoring groups, DEQ should support continuing education for sampling protocols and hands-on training opportunities to these groups, as well as provide field-checks to spot verify the data collected. While it is understandable that volunteer monitoring techniques may not be equivalent to DEQ monitoring, the volunteer data should be recorded and incorporated into future reports as an indicator of water quality conditions. It is unlikely the DEQ will ever have adequate resources to conduct all necessary monitoring in a timely fashion throughout the state. Therefore, it is imperative that DEQ reevaluate its citizen monitoring program with an eye to giving it more credibility.

  In addition, DEQ should consider assigning citizen monitoring groups to the identified naturally-impaired waters where improvements overtime are likely unachievable (subcategory 5C). DEQ staff should focus its monitoring to the man-made impaired waters and those that have yet to be assessed.

- **Natural Occurring Impairments:** Additional efforts should be made to understand and analyze naturally impaired waters, Virginia subcategory 5C. There should be an aggressive effort to re-evaluate the stringent water quality standards in these site-specific cases where improvements are likely unachievable, and if possible to have these waters de-listed. The re-evaluation of these waters will enable DEQ to concentrate on man-made impairments where water quality can more realistically be improved. Focusing improvements on man-made impaired water bodies will accelerate the recovery of the state's overall water quality. Again, prioritization will help DEQ to achieve realistic results.

- **Success Stories:** DEQ should also make efforts to counter public opinion by decreasing the amount of impaired waters and publicize the success stories of water quality gains through DEQ action.

The Chesapeake Bay and EPA: There are various federal programs directed toward improving the water quality of the Chesapeake Bay. The Bay remains a significant national resource similar in status to the Florida Everglades. More consideration is needed to formally establish Bay revitalization as a federal priority with the associated federal grant monies to improve Virginia's water quality in streams and rivers, most of which drain to the Bay. Additional federal funds could be allocated for implementation of existing programs, such as TMDLs and erosion and sediment controls.

Response to Jacqueline S. Stewart – Richmond Regional Planning District Commission:

Monitoring data from all DEQ monitoring stations is available via our new Water Monitoring Data Query Application at the following URL: http://gisweb.deq.virginia.gov/monapp/mon_data_retrieval_app.html. The assessment report, although normally prepared every two years, uses data over a period of at least five years in order to achieve statistical significance. The Chesapeake Bay is one of EPA's top priorities. This priority is reflected in EPA grant programs.

There is a TMDL coordinator in each of DEQ's Regional Offices with the exception of the Tidewater Office. These are the people the localities will generally work with in the development of TMDLs. Generally, a locality with work with their TMDL coordinator with some occasional contact with the DEQ Central Office TMDL staff in matters of policy and EPA liaison.

In implementation of the TMDL the localities will continue to liaison with DEQ TMDL coordinator in addition with someone from the Department of Conservation and Recreation for the nonpoint source component of the TMDL implementation.

The budget for TMDL develop is sufficient at this time to meet the TMDL development schedule contained in the Consent Decree that EPA Region III signed with the plaintiffs.

TMDL implementation of pollutant reduction measures is achieved through the VPDES permit process for the point source component of the TMDL and voluntary BMPs for nonpoint source component. Currently, there are a number of cost share grants and loans such as the farm bill, 319, and the state revolving loan fund are available for nonpoint source implementation. Additional information on Virginia's TMDL program including implementation can be found on DEQ's TMDL website www.deq.virginia.gov/tmdl/.

Regarding natural impairments DEQ does have an effort underway to demonstrate via the EPA required Use Attainability Analysis, a structured scientific assessment of the factors affecting the attainment of the use, those waters on the list that are naturally of lower pH than the regulatory range of 6 - 9 and to designate them as Class VII swamp waters with a pH range of 4.3 -9. This effort was initiated during the most recent triennial review of the water quality standards to list a portion of the naturally low pH waters in this class and the evaluation of additional waters is underway for proposed reclassification during the next triennial review. There is also a more recent effort underway per the implementation procedure for dissolved oxygen criteria in waters naturally low in dissolved oxygen, to conduct the necessary studies to designate site specific criteria that reflect the natural quality in stratified reservoirs.

DEQ is also taking actions to increase the utility of citizen water quality monitoring and other non-agency data. The former Citizen Monitoring Coordinator staff position has evolved and expanded (2004) into the Water Quality Data Liaison position. In addition to continuing to provide both technical, and when available, financial assistance to citizen monitoring organizations, among other duties, the Liaison will seek ways to use more non-agency data for the water quality assessment.